

**Co-regulating Dutch Vocational Caregiving Students in SRL to become Reflective
Practice Professionals
An Educational Design Research**

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Summary

A Dutch eldercare centre acknowledged the challenges faced by students in the MBO level 3 BBL training programme for Caregiving as they strive to embody the reflective practice professional role outlined by S-BB (2020), which includes goalsetting, feedback, and self-reflection. This educational design research aimed to explore how students can be supported to become self-regulated learners in line with the reflective practice professional role. Through document analysis and interviews with students, supervisors, and practical trainers, insights into the current state of the training programme were gathered. The analysis revealed that students receive some support in self-regulated learning (SRL), including asking for and giving feedback, through various learning interventions. However, text-based SRL interventions lacking social interaction proved inadequate in fostering students' development as reflective practice professionals. It became evident that supervisors play a crucial role in co-regulating students in SRL processes to enable them to become reflective practice professionals. However, supervisors encountered challenges in terms of time constraints and skills to effectively guide students in this role. Consequently, the focus of the study shifted towards designing and implementing a solution to support supervisors in co-regulating students' learning processes. A structured approach was developed, involving daily stand-up and closing sessions between students and supervisors. During the stand-up sessions, supervisors guide students in goalsetting and encourage group discussions to facilitate feedback exchange (SRL forethought phase). In the closing sessions, supervisors facilitate self-reflection on actions, functioning, and feedback (SRL self-reflection phase). A manual was created to assist supervisors in understanding and implementing this approach effectively.

Introduction

Initial Orientation

The MBO level 3 BBL training programme for Caregiving, also known as Verzorgende-IG in Dutch, is a vocational education programme in the Netherlands that prepares students to become qualified caregivers for the elderly, disabled, and chronically ill. The programme is an apprenticeship, combining classroom learning with practical work at accredited placement companies, providing students with hands-on experience and theoretical knowledge. One of these accredited placement companies is the eldercare centre that is the focus of this research. The eldercare centre is accredited by S-BB, a Dutch foundation responsible for vocational education programmes' qualification requirements. The requirements for the Caregiving programme are based on the roles outlined in the CanMEDS methodology (CanMEDS; Frank et al., 2015). Of particular interest in this research is S-BB's qualification requirement of the role of the reflective practice professional (2020), which is derived from Schön's theory of the Reflective Practitioner (1983). According to S-BB (2020), the reflective practice professional engages in three processes: 1) reflecting on one's actions and functioning, 2) asking for and giving feedback, and 3) taking responsibility for achieving learning goals.

However, the eldercare centre recognizes that students in the training programme face difficulties in fulfilling the role of the reflective practice professional. Some students lack understanding of the theoretical foundation and value of self-reflection and goalsetting, while others struggle to utilize feedback opportunities from healthcare professionals in the workplace. Existing learning interventions have not effectively addressed these challenges, raising concerns about students' ability to meet S-BB's requirements (2020) and adequately respond to the complex demands of eldercare. As the population ages, there is an increasing demand for healthcare services that cater to multiple chronic conditions, cognitive impairment, and functional limitations (Etkind et al., 2018; Schulz & Eden, 2016). This emphasizes the need for educating professionals who provide specialized care for elderly people (Schulz & Eden, 2016).

The eldercare centre identifies a connection between S-BB's definition of the reflective practice professional and self-regulated learning (i.e., SRL) as described by Zimmerman (1989). Self-regulated learners proactively set goals and learning strategies, monitor their progress, and reflect on their actions and functioning. The centre aims for its students to become self-regulated learners who understand the requirements of the reflective practice professional. By doing so, students can effectively reflect on experiences, adapt to changing circumstances, and navigate the complexities of eldercare (Mann et al., 2009).

Therefore, the focus of this research is on *how the eldercare centre can support its students in becoming self-regulated learners, and by this understand what is required to take the role of the reflective practice professional.*

Organisational Context

The commissioning Dutch eldercare centre is a professional organisation for housing, care, and rehabilitation. The eldercare centre comprises 21 different locations for various eldercare needs (e.g., somatic, rehabilitation, crisis admission, independent living), but also has employees who come to the clients' homes. With over 2,200 employees, the eldercare centre is one of the medium-sized healthcare organisations in the Netherlands. The key part of the organisation is the operating core. This core consists of employees or students in Care and Welfare Assistance (i.e., MBO niveau 2 Helpende Zorg en Welzijn), caregiving (i.e., MBO niveau 3 Verzorgende-IG), nursing (in Dutch: MBO Verpleegkundigen Niveau 4 and HBO Verpleegkundigen), and (para)medicine. The organisation is managed by a Board of Directors, a Supervisory Board, and a Participation Council. The organisation will have to deal with laws and regulations in the Dutch healthcare sector. The board has an important task here in the concrete implementation of the laws and regulations in management, control, accountability, and internal supervision. For example, the board takes the policy of S-BB in account. The board collaborates with senior vocational education institutions to ensure that the Caregiver training programme meets S-BB's requirements (2020), such as developing the role of the reflective practice professional. Another example is that the board should ensure that students receive

sufficient guidance during their training. Students should be guided by experienced caregivers who are able to support them in developing the necessary skills and competencies.

Educational context

The eldercare centre collaborates with two senior vocational schools in Caregiving. Both schools are urban and well-known in the Netherlands. The programme of Caregiving typically lasts three years. The curriculum of this programme is based on S-BB's qualification profile for caregivers (2020). This qualification profile outlines the knowledge and skills that a novice professional should possess at the end of the study program. Students learn both vocational-specific components, which include the common core tasks and work processes described in the initial orientation, as well as generic components. The generic components are formulated by the national government and cover subjects such as the Dutch language, mathematics, and career and citizenship skills. Additionally, students can choose one or more optional modules. The purpose of these optional modules is to provide additional specialization or broadening of skills beyond the qualification requirements, either for employment preparation or as an additional preparation for further education

Guidance: Important Stakeholders

At school, the consultant and coach guide students in their learning process and career from within the study programme of the school. In the eldercare centre's workplace, students are guided by experienced care professionals: the supervisors and the practical trainers. Under supervision of the supervisor, students practice providing basic care services such as assisting with personal hygiene, feeding, and mobility. Supervisors stimulate students to self-reflect, set goals, and to ask for feedback in the workplace. The practical trainer supports the guidance between the students and supervisors. The practical trainer is involved in the learning process of the students, provides feedback to supervisors about supervising the students, and supports students in reflecting and assessing the learning process. In this research, the students, supervisors and practical trainers of the eldercare centre are the most important stakeholders.

Assessment

Students first practice the underlying skills in the apprenticeship practice of the eldercare centre in preparation for the exams. They receive apprenticeship assignments per learning year to prepare for the exams. When students successfully have completed their apprenticeship, students are externally assessed through exams in terms of theoretical knowledge, skills, and attitudes learned at school. The exams consist of practical exams, simulations, and criterion-based interviews. During practical exams, students perform the tested skills throughout the day and are evaluated by an independent examiner. During simulations, students take exams at school in a simulated situation. During criterion-based interviews, students participate in a question-and-answer session based on evidence collected during their apprenticeship practice in the eldercare centre (i.e., portfolio).

During each learning year, there are two important assessment moments: a mid-term weigh-in and a final weigh-in. These weigh-in moments play a crucial role in determining the students' development as professional caregivers and evaluating their training progress. The assessments involve input from supervisors and practical trainers at the eldercare centre. Factors such as students' attendance, demonstration of the CanMEDS roles/professional attitudes, and overall progress are considered to determine their competence as professionals. If students do not meet the requirements at the weigh-in moment, they are not permitted to progress to the next school year.

Theoretical Framework

In the theoretical framework, I am going to focus on the most important concepts of this thesis, as derived from the initial orientation: the concepts of the reflective practice professional (S-BB, 2020) and SRL. After elaborating both, I connect both concepts, and conclude why students take the role of the reflective practice professional when they self-regulate their learning.

Concepts of the Reflective Practice Professional

In the role of the reflective practice professional, as stated by S-BB (2020), caregivers should (1) reflect on their own actions and functioning, (2) ask for and give feedback to others, and (3) be responsible for achieving formulated learning goals. In the first subsection of the concepts of the reflective practice professional, I elaborate on concepts self-reflection and feedback, related to Schön's theory of the Reflective Practitioner (Schön, 1983). In the second subsection of the concepts of the reflective practice professional, I elaborate on concepts goalsetting and feedback, as in the goalsetting theory of Locke and Latham (1990). The theoretical concepts of the theory of Reflective Practitioner (Schön, 1983) and the goalsetting theory of Locke and Latham (1990) are both connected to informal learning (i.e., on-the-job learning during the apprenticeship). They both emphasize the importance of learning through experience, reflection, and feedback. Reflective Practice (Schön, 1983) involves reflecting on experiences and making adjustments to improve future performance, where feedback is closely related to improve performance. The goalsetting theory of Locke and Latham (1990) emphasizes the importance of setting specific and challenging goals, receiving feedback, and making adjustments to achieve those goals.

The Reflective Practice Professional: Self-Reflection and Feedback

Dewey (1933, as cited in Bulman & Schutz, 2013) defined self-reflection as the process of making meaning of one's experience to go forward and improve as a practitioner. Dewey (1933) was an inspirational source for other researchers, such as Schön (1983). Dewey (1933) and Schön (1983) both agreed that the goal of reflection is to express what we know from experience. Schön (1983) describes self-reflection as the process of being aware of one's own

knowledge and skill set while combining it with the situation at hand to develop new understandings. Schön's work of the Reflective Practitioner (1983) led to the development of two types of reflection: reflection-in-action and reflection-on-action.

Self-Reflection: Reflection-in-Action. Reflection-in-action refers to analysing a situation while it happens to improve one's understanding and decision-making abilities (Schön, 1983). Schön (1983) argues that this happens in a sequence of four components: routine action, encountering surprise, reflection, and new action. For example, the student performs a routine action (e.g., bandaging), encounters a surprise (e.g., discoloration of client's toes), reflects (e.g., discoloration means that blood circulation is cut off), and new action (e.g., rewrap bandaging loosely).

Reflection-in-Action and its Relation to Feedback. Feedback is closely related to reflection-in-action in healthcare education because it can be a powerful tool for facilitating reflective practice. According to Schön (1983), feedback is an essential component of the process of reflection-in-action. As nurses and healthcare professionals engage in their work, they continuously receive feedback from patients, colleagues, and supervisors, which they can use to adjust their actions and improve their performance. For example, Andrews and Cole (2016) conducted a study that discovered that nursing students were able to identify areas that needed improvement and make necessary changes to their practice through feedback from clinical supervisors. According to the authors, feedback from supervisors is a useful method of promoting reflection-in-action. Another study by Li et al. (2018) found that peer feedback in a simulated clinical environment can be an effective tool for promoting reflection-in-action among nursing students. The authors found that peer feedback helped students to identify their strengths and weaknesses, gain insight into their own clinical reasoning, and improve their decision-making skills.

However, reflection-in-action in nursing education also faces challenges. In a study by Mann et al. (2009), nursing students were observed during their clinical placements and their experiences with reflection-in-action were analysed. The study found that students struggled with reflection-in-action because they felt pressure to perform and were focused on completing

tasks rather than reflecting on their actions. Additionally, students reported feeling self-conscious about their performance and were hesitant to share their reflections with others. Another study by Mordang et al. (2020) identified several barriers to reflection-in-action, including time constraints.

Self-Reflection: Reflection-on-Action. Contrary to reflection-in-action, you review, analyse, and evaluate the situation afterwards when you reflect-on-action (Schön, 1983). Reflection-on-action can be more accessible to students in a clinical environment than reflection-in-action when properly embedded in their learning experiences. For example, in nursing education, reflection-on-action is frequently utilized in reflective assignments (Edwards, 2017). Students report on their experiences, reconstructing their experiences after performing action. This is because reflection-on-action occurs after the event, allowing students to step back from the situation and take time to analyse and evaluate their actions in a more objective way. It also allows for the use of additional resources, such as feedback from supervisors, peers, or patients, that can provide valuable insight into the student's performance. Mann et al. (2009) conducted a study on the effects of a structured reflective writing activity on nursing students. They discovered that the activity facilitated the students' reflection on their learning experiences and enabled them to identify areas for growth. The authors concluded that reflective writing is an effective and engaging approach to develop critical thinking skills in nursing students.

Reflection-on-Action and its Relation to Feedback. Feedback is essential for reflection-on-action in medical education (Van de Ridder et al., 2008). Feedback should be provided by clinical supervisors or peers afterwards a situation can help medical students identify gaps in their knowledge or skills, and guide them in developing plans for future improvement.

The Reflective Practice Professional: Goalsetting and Feedback

Locke and Latham (1990) led decades of goalsetting research and identified how specific and challenging goals affect performance more than ambiguous or no goals. According to this theory, specific and challenging goalsetting can lead to increased motivation, effort, and persistence, which can improve student learning outcomes (Locke & Latham, 1990). Barriers for

students to set goals in a clinical environment are, for example, having difficulties to set a realistic and attainable goal and a lack of time (Stuart et al., 2005; Nothnagle et al., 2011).

Goalsetting and its Relation to Feedback. Research has shown that the use of feedback in combination with goalsetting can lead to better learning outcomes. For example, a study by Hattie and Timperley (2007) found that feedback is most effective when it is focused on specific goals and is given in a timely manner. The authors suggest that the feedback should be given to achieve specific goals with clear and specific criteria for success and failure, and should be given as soon as possible after performance (i.e., reflection-on-action).

Concepts of Self-Regulated Learning

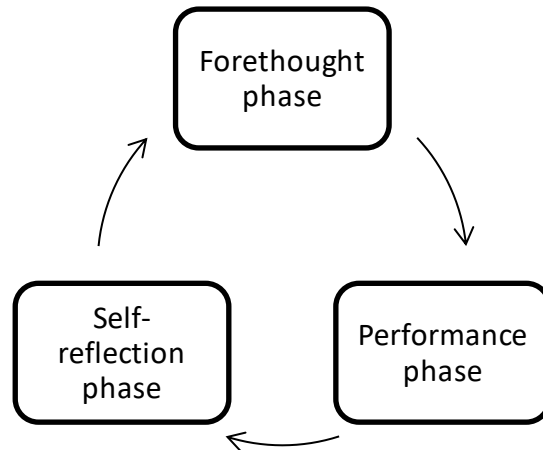
Central to the concepts of S-BB's reflective practice practitioner (2020) are self-reflection, feedback, and goal setting, all of which require individuals to take responsibility for and regulate their own learning process. In this context, it is important to explore the concept **SRL** beginning with Zimmerman's theory from 1989. Additionally, I will delve into the topic of co-regulated learning.

Concepts of Self-Regulated Learning: Self-Regulated Learning (Zimmerman, 1989)

Healthcare students are required to self-regulate their learning in complicated and unpredictable clinical learning situations, which is critical for patient care safety (Bransen et al., 2019). As a result, several medical curricula assist medical students in building SRL skills. SRL is commonly defined as a cyclical process that begins with setting goals and plan to achieve these goals (i.e., SRL forethought phase), employing techniques to attain and assess progress toward those goals (i.e., SRL performance phase), followed by self-reflection (e.g., SRL self-reflection phase) and, in turn, the development of new learning goals (Zimmerman, 1989). In the next sections, I describe the phases and subprocesses of SRL according to Zimmerman (1989). In Figure 1, the phases of SRL are depicted (Zimmerman, 2000).

Figure 1

SRL Model by Zimmerman (2000)



Self-Regulated Learning: Forethought Phase. The forethought phase covers the processes and thoughts that happen before learning efforts (Zimmerman, 1989). It has two main subprocesses: task analysis and self-motivation beliefs. Task analysis encompasses goalsetting and planning. Self-motivation arises from students' beliefs about learning. For example, self-efficacy beliefs about personal ability and outcome expectations about personal results. Intrinsic interest is when students value the task for its own sake, and learning goal orientation is when they value the learning process for its own sake.

Self-Regulated Learning: Performance Phase. The performance phase refers to actions and processes that take place during the actual performance or execution of a behaviour of a task (Zimmerman, 1989). This phase involves two main subprocesses: self-control and self-observation. Self-control involves the use of strategies and methods selected in the previous Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies. Self-observation involves self-recording events or conducting self-experiments to understand the cause of those events. Self-monitoring, a subtle form of self-observation, involves cognitively tracking one's own performance and functioning.

Self-Regulated Learning: Self-reflection Phase. The self-reflection phase covers processes that happen after each learning attempt (Zimmerman, 1989). It has two main subprocesses: self-judgment and self-reaction. Self-evaluation, a form of self-judgment,

involves comparing one's performance against a standard such as prior performance, others' performance, or an absolute standard. Another form of self-judgment is causal attribution, which is the belief about the reason for errors or successes. Self-reactions can involve feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts. Adaptive/defensive responses are also part of self-reactions. Defensive responses mean withdrawing or avoiding learning opportunities to protect self-image, while adaptive responses involve adjustments to enhance the learning method. This self-regulation process is cyclical, as the self-reflection phase helps individuals to understand their strengths and weaknesses, set new goals, and develop a plan for future learning. The purpose of this phase is to reflect on the learning process, adjust and adapt it, and continuously improve it over time. The information gathered through self-reflection is used in the Forethought phase when individuals plan and prepare for future learning activities.

Concepts of Self-Regulated Learning: Co-Regulated Learning

Research shows that students frequently fail to manage their SRL in clinical learning environments due to the unexpected, dynamic, and chaotic character of clinical workplace settings (Lucieer et al., 2016). Lately, theories and models of SRL are expanded to highly interactive and dynamic learning circumstances where shared knowledge construction and collaboration arise (Hadwin et al., 2017), underlining the importance of embedding learning in actual social practices. The potential impact of social interactions on medical students in SRL is explained in the concept of co-regulated learning (CoRL; Bransen et al., 2019).

CoRL is based on sociocultural learning theories that stress how learners are constantly impacted by their environment while simultaneously co-producing and co-creating the contexts in which they learn and operate (Hadwin et al., 2011). CoRL refers to “the dynamic metacognitive processes through which self-regulation and shared regulation of cognition, behaviour, motivation and emotions are transitionally and flexibly supported and thwarted” (Hadwin et al., 2017, p. 84). Bransen et al. (2019) underline that SRL is integrated in social interactions and CoRL in healthcare workplace contexts. They suppose when CoRL is structurally entrenched in internships, it will enhance the SRL development of students in the

medical sector. Here, they note that the capacity to self-regulate implies the ability to participate in meaningful relationships with others to support learning processes. For example, to improve student SRL behaviours and performance, it is recommended for teachers, peers, or systems to give students external feedback (Chou & Zou, 2020). External feedback helps students monitor their progress, inform them about what they are learning, and give them chances to produce internal feedback to close the gap between their goals and actual performance (Nicol & Macfarlane-Dick, 2006).

Concepts of the Reflective Practice Professional and SRL

We now have a better understanding of the role of the reflective practice professional from the perspective of a self-regulated learner. We see similarities between the concepts of S-BB's reflective practice professional (2020) and the concepts of SRL. In both concepts, self-reflection, feedback, and setting goals are central. For students to act in the role of the reflective practice professional, they should take the responsibility to self-reflect, ask for and give feedback, and set goals. This is where the concept of SRL comes in, whereas students should regulate their own learning to self-reflect, ask for and give feedback, and set goals. Here, we should keep in mind that SRL is integrated in the social interactions of the students' apprenticeship context, so CoRL plays an important role. Hence, I argue that when we support the eldercare centre's students to become self-regulated learners, including asking for and giving feedback, it is understood what is required to take the role of the reflective practice professional.

An Educational Design Research

To provide a solution for the problem as described in the initial orientation, an educational design research approach is adopted (EDR; McKenney & Reeves, 2012). Through EDR, my goal is to further understand what the problem is, and to design a potential solution for solving this problem. The generic model for conducting EDR consists of three flexible, iterative micro-cycles: the Analysis and Exploration phase, the Design and Construction phase, and the Evaluation and Reflection phase. Both the Analysis and Exploration phase, and the Evaluation and Reflection phase involve empirical cycles, including data collection. However, the Design and Construction phase is a deliberative-generative cycle. This micro-cycle is informed by the findings of the Analysis and Exploration phase. The EDR model of this thesis is depicted in Table 1. I research one meso-cycle, consisting of one analysis and exploration micro-cycle, and a design and construction micro-cycle. Due to the scope of a master's thesis and its focus on developing a learning intervention, I exclude the micro-cycle of evaluation and reflection.



In the Analysis and Exploration phase, I am going to research the status quo to what extent caregiving students already are supported during their apprenticeship to become self-regulated learners, including asking for and giving feedback. That is why I am going to conduct a document analysis to analyse which learning interventions already have been developed to support students in concepts of SRL, including asking for/giving feedback. Because the importance of CoRL in the clinical setting, I am also going to analyse what the already existing co-regulatory tasks of supervisors and practical trainers are. After document analysis, I will conduct interviews with students, supervisors, and practical trainers to analyse what problems they experience regarding concepts of SRL, including asking for and giving feedback. The problem analysis tells us something about the needs of the students, supervisors, and practical trainers. In this way, I can conclude gaps between the status quo and the desired states. Related to these gaps, I deliver four products in the synthesis of the Analysis and Exploration phase: a problem definition, long-range goal, partial design requirements, and initial design propositions. Exploration was supported by activities such as site visits, professional meetings, and networking. This provided context and helped to conclude on the analysis.

In the Design and Construction phase, I will deliver a prototype of the learning intervention, based on the synthesis of the Analysis and Exploration phase. Since the micro-cycle of the Design and Construction phase is not empirical but deliberative-generative, the structure is different from what is commonly used in a master's thesis. Instead of a cycle of data collection and data analysis, I performed activities to explore potential solutions towards the problem by generating ideas, considering ideas, and checking ideas together with a domain expert. To map these solutions in a design, I undertook the activities of defining requirements and propositions, creating a skeleton design, and creating detailed specifications using the 4C/ID model (Van Merriënboer et al., 2002). After this, I constructed a prototype of the learning intervention.

After the Design and Construction phase, I provide recommendations on how to implement and evaluate the prototype.

Table 1

Current Educational Design Research

<p>Analysis and Exploration phase</p>  <p>One empirical micro-cycle</p>	<p>Design and Construction phase</p>  <p>One generative-deliberative micro-cycle</p>
<p>Meso-cycle</p>	
<p>Analysis</p>	<p>Design</p>
<p>Question 1: <i>Which learning interventions have already been developed to support caregiving students during their apprenticeship in concepts of SRL, including asking for/giving feedback? And what are the co-regulatory and feedback tasks of supervisors and practical trainers in this?</i></p> <p>Method: Document analysis</p>	<p>Question 3: <i>What are potential solutions for supervisors to know what is required for students to take the role of the reflective practical professional, and to put this into practice by co-regulating students' learning, including asking for/giving feedback?</i></p> <p>Processes: Exploring and mapping solutions</p> <p>Activities: Idea generation, idea consideration and idea checking, and refining requirements and propositions, making a skeleton design and specifying the detailed design</p>
<p>Question 2: <i>What are the problems regarding the concepts of SRL, including asking for/giving feedback, according to students, supervisors, and practical trainers?</i></p> <p>Method: Problem analysis</p>	
<p>Exploration</p>	<p>Construction</p>
<p>Activities: Site visits, professional meetings, and networking</p>	<p>Activities: Constructing partial prototype of the learning intervention</p>
<p>Products: Problem definition, long-range goal, partial design requirements, initial design propositions</p>	<p>Products: Prototype of the learning intervention</p>

Analysis and Exploration phase: Document Analysis

Document Analysis: Questions

To understand the status quo how the eldercare centre's students are supported to become self-regulated learners, including asking for/giving feedback, and by this understand what is required to take the role of the reflective practice professional, I formulated the next questions.

Question 1: Which learning interventions have already been developed to support caregiving students during their apprenticeship in concepts of SRL, including asking for/giving feedback? And what are the co-regulatory and feedback tasks of supervisors and practical trainers in this?

Document Analysis: Methods

Qualitative research is conducted to answer Question 1. I conducted a document analysis of relevant apprenticeship documents of the students, supervisors, and practical trainers.

Methods of Document Analysis: Procedure

For selecting the documents, I followed four steps that are inspired by a simplified version of the PRISMA Flow Diagram (Page et al., 2021). Table 2 displays these steps. The first step was to identify relevant documents. I asked the apprenticeship coordinator of the eldercare centre for relevant documents that could answer the first and second questions. The apprenticeship coordinator provided four documents: 1) the apprenticeship book of School 1, 2) the apprenticeship book of School 2, 3) the qualification file of the practical trainer, and 4) the job profile of the supervisor. In addition, I identified two documents through S-BB (2020): the profile of the caregiver as in the qualification file and the job description of the caregiver.

The second step was to screen the documents whether data of the documents fit the inclusion criteria. These inclusion criteria were: the document is the most recent version the eldercare centre and the schools work with, the document contains learning interventions

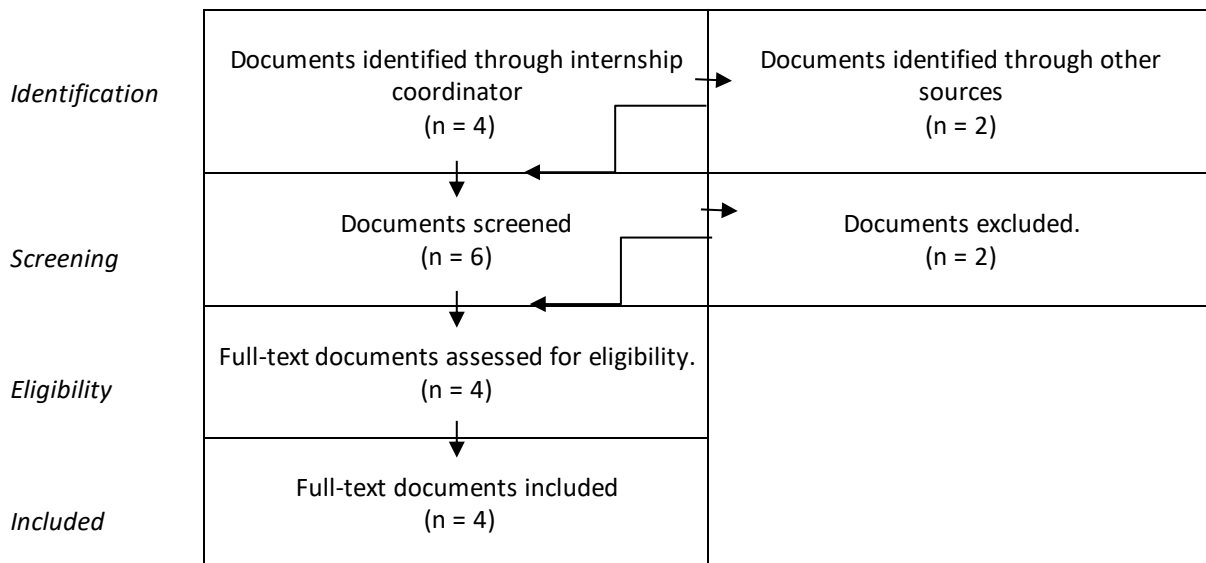
focusing on the learning process of the students, and/or the document contains tasks of supervisors and practical trainers regarding students' learning process. I selected the apprenticeship books of School 1 and 2, which are both urban and well-known secondary vocational schools in the Netherlands. These documents contained the most recent learning interventions focusing on students' learning processes. Besides, I selected the qualification file of the practical trainer and the profile of the supervisor because these documents contained tasks regarding students' learning process. The two documents of S-BB (2020) did not meet the including criteria. Therefore, I excluded these documents.

The third step was to assess the four-remaining full-text documents for eligibility. After reading the documents, I could conclude that data from the documents can answer Question 1.

The fourth step was to analyse the data in a qualitative content-analytical method.

Table 2

Simplified PRISMA Flow Diagram for Selecting Documents



Methods of Document Analysis: Data Analysis

For generating qualitative data from the four selected documents, I used five steps of deductive category assignment approach as a qualitative content-analytical method (Mayring, 2014). The first goal of this approach was to research whether data from the apprenticeship's

books of School 1 and School 2 corresponded with SRL and feedback learning interventions. Second, to research whether data from the qualification file of the practical trainer and the profile of the supervisor corresponded with co-regulatory tasks.

The first step I took was defining the category system from the theoretical framework, describing the main categories and subcategories (Table 3). I categorised the main categories as the two concepts of SRL (i.e., SRL according to Zimmerman (1989) and CoRL) and the main category of feedback. The second step I took was creating and filling in a coding guideline. This guideline contained four columns: category label, category definition, anchor example, and coding rules (Appendix A). These coding rules are especially important for the quality criteria of objectivity, reliability, and validity. The third step I took was coding all data from the beginning, noting the text passage behind the right category in the coding guideline (Appendix A). Although no inter-coder reliability took place, I took a fourth step of revision. After coding 30% of the data, I revised the categories and coding schemes till it had become stable. The fifth step was to code all relevant data belonging to the categories.

Table 3

Main Categories and Subcategories of Document Analysis Based on Theoretical Framework

Main categories	Subcategories
Which learning interventions have already been developed to support caregiving students during their apprenticeship in SRL, including asking for/giving feedback?	
SRL	The whole cycle of SRL <hr/> Forethought phase (i.e., task analysis and self-motivation beliefs) <hr/> Performance phase (i.e., self-control and self-observation) <hr/> Self-reflection phase (i.e., self-judgment and self-reaction)
CoRL	Co-regulation of the whole cycle of SRL <hr/> Co-regulation of the forethought phase (i.e., task-analysis and self-motivation beliefs) <hr/> Co-regulation of the performance phase (i.e., self-control and self-observation) <hr/> Co-regulation of the self-reflection phase (i.e., self-judgment and self-reaction)
Feedback	Feedback during action (i.e., reflection-in-action)

	Feedback after action (i.e., reflection-on-action)
And what are the co-regulatory and feedback tasks of supervisors and practical trainers in this?	
CoRL/feedback tasks of supervisors	Forethought phase (i.e., task-analysis and self-motivation beliefs)
	Performance phase (i.e., self-control and self-observation)
	Self-reflection phase (i.e., self-judgment and self-reaction)
Feedback tasks of supervisors	Feedback during action (i.e., reflection-in-action)
	Feedback on action (i.e., reflection-on-action)
CoRL/feedback tasks of practical trainers	Forethought phase (i.e., task-analysis and self-motivation beliefs)
	Performance phase (i.e., self-control and self-observation)
	Self-reflection phase (i.e., self-judgment and self-reaction)
Feedback tasks of practical trainers	Feedback during action (i.e., reflection-in-action)
	Feedback on action (i.e., reflection-on-action)

Document Analysis: Results

The document analysis revealed several learning interventions that already have been developed to support caregiving students during their apprenticeship in concepts of SRL and feedback. Besides, I identified co-regulatory tasks of supervisors and practical trainers to support students in SRL and feedback. All detailed results can be found in Appendix A. In Table 4, I made an overview of these results. In the next sections, I explain the most important results.

Results of the Document Analysis: Interventions that Support Students in SRL (Zimmerman, 1989), and the Co-Regulatory Tasks of Supervisors and Practical Trainers

SRL: Forethought Phase. When looking at the SRL forethought phase (i.e., task analysis and self-motivational beliefs), we see that students in both schools are supported in task analysis. Students are encouraged to discuss their learning goals with their supervisors at the start of the day, using the SMART acronym. With this tool, students learn to formulate their goals Specific, Measurable, Achievable, Relevant, and Time-bound. Supervisors have several co-regulatory tasks to support students in task analysis. In consultation with practical trainers,

supervisors check which competencies students already have developed, need to develop, and which apprenticeship practice assignments they should carry out. Together with the students, supervisors formulate which concrete behaviour students should show to be considered competent. Supervisors stimulate students to work with a plan of action. Supervisors support students in this by helping to formulate learning goals, so that students can base their follow-up plan of apprenticeship practice assignments. Practical trainers also have co-regulatory tasks to support students in task analysis. Practical trainers draw up a learning plan for the students, giving priority to the language level, learning style, and learning and guidance needs of the students. Besides, practical trainers plan individual learning situations for the students at the workplace level, coordinating goals, actions, time, and resources.

However, I did not find that students are supported in self-motivational beliefs by learning interventions or supervisors. Practical trainers support students in self-motivational beliefs by making sure that students feel supported in their learning process by recognizing the learning and development needs and the opportunities of the students.

SRL: Performance Phase. When looking at the SRL performance phase (i.e., self-control and self-observation), I did not find corresponding learning interventions in the apprenticeship books of School 1 and School 2. However, we see that supervisors have co-regulatory tasks in supporting students during self-control. Supervisors make proposals to improve students' learning process; promote students' work progress by taking precautions or intervening; give students the opportunity to influence the structure and content of their learning process; identify and discuss opportunities and potential bottlenecks in students' learning process; and organize, signal, and adjust learning activities to the learning process and/or year of the students. Data did not show co-regulatory tasks of the practical trainer to support students in self-control or self-observation.

SRL: Self-Reflection Phase. When looking at the SRL self-reflection phase (i.e., self-judgment and self-reaction), data from both apprenticeship books of School 1 and School 2 showed that students are supported in self-judgment using rubrics. We see that School 1 uses the rubrics Measuring Instrument Professional Attitude. Students can compare their own

professional attitude to the rubrics to self-evaluate their professional attitude. School 2 also uses a Measuring Instrument Professional Attitude. However, these rubrics correspond with the CanMEDS roles. Using these rubrics, students can compare their own professional development towards the CanMEDS roles. Supervisors have the co-regulatory task in students' self-judgment to stimulate them to reflect on their learning process. Practical trainers conduct individual and group-oriented interviews to invite students to reflect on their learning process and performance related to learning goals.

In the data of the apprenticeship book of School 2, we also see that students are provided with a STARRT form that helps them in self-reflection. For each step in the STARRT form, prompting questions are included to support students in self-reflection. The acronym starts with describing the Situation. In the second step of Task, students describe a goal and plan to achieve that goal as determined in the SRL forethought phase. In the third step of Action, students reflect on the SRL performance phase by justifying how they acted in a professional situation. In the fourth step of Results, students reflect on which concrete results they achieved (i.e., SRL self-reflection phase). In the fifth step of Reflection, students motivate their actions (i.e., SRL self-reflection phase). Prompting questions are, for example: "What would you do differently: What knowledge, skills and attitude would you make better use of?" In the Transfer step, students formulate new learning goals on how the performance of previous steps can be applied in comparable and more complex situations, which can lead to a new cycle of SRL.

SRL: Whole SRL Cycle. In the data of apprenticeship books of School 1 and 2, I found learning interventions that supported students during the whole cycle of SRL. The first learning intervention is the Wegwijzer. The Wegwijzer is a step-by-step plan for students on how to plan, perform and reflect on apprenticeship practice assignments. The first two steps of the Wegwijzer are Orientation and Planning, corresponding with task analysis of the SRL forethought phase. Students ensure that they know what is expected of them, formulate learning goals, and plan to achieve these goals. The third step is Performance, which corresponds with the SRL performance phase. Students carry out the apprenticeship practice

assignment according to plan, check whether the plan works or needs to be adjusted. Students request feedback from their supervisors through feedback forms. The fourth and fifth steps are Evaluation and Reflection, which correspond with the SRL self-reflection phase. Students check together with their supervisors whether results have been achieved, looking back at the entire implementation of the assignment, and determining what could be done better next time. This leads again to the SRL forethought phase, which makes the SRL cycle complete.

The second learning intervention is the Personal Development Plan (i.e., DPD) and Personal Activity Plan (i.e., PAP). The PDP and PAP are plans containing apprenticeship practice assignments related to personal learning goals, which corresponds with the SRL forethought phase. Students make these plans before the apprenticeship starts. In the PDP, students indicate exactly what they want to learn. In the PAP, students indicate how they are going to learn this. Students are guided with prompting questions (e.g., “What do I want to learn? A personal learning goal SMART formulated in one sentence. Start with ‘I’ and the 4 W’s: “What and how am I going to do that? What do I need? Who can help me with that? What agreements have I made?”). During the apprenticeship, students perform and adjust the PAP, when necessary, which corresponds with the SRL performance phase. After performance, assignments and learning goals are assessed. Students reflect on how the acquired knowledge, skills and attitudes can be applied in a subsequent situation, corresponding with the SRL self-reflection phase. Prompting questions are also provided here (e.g., “How did it go? What did I learn? What not yet? What else do I want to learn about this?”). By answering the prompting questions, students can set new learning goals, which completes the SRL cycle.

Results of the Document Analysis: Interventions that Support Students in CoRL, and the Co-Regulatory Tasks of Supervisors and Practical Trainers

Both apprenticeship books of School 1 and 2 contained a learning intervention that supports students in the whole cycle of SRL by CoRL, namely: interviews. We see that students need to do five official interviews: one introductory interview, two progress interviews, one interim evaluation, and one final evaluation. Students plan these interviews by themselves. The supervisor should always be present during the interviews. Depending on the interview, the

practical trainer and twice the coach of the school are present. Supervisors, practical trainers and the coach all stimulate students' metacognitive processes during the interviews: determining the learning and guidance needs at the start of the apprenticeship (i.e., SRL forethought phase), determining students' progress in the apprenticeship (i.e., SRL performance and self-reflection phase), assessing students' progress in practical learning (i.e., SRL self-reflection phase), and completing the apprenticeship in which new goals for the next phase are determined. This completes the SRL cycle. Students make a report of each interview, having these signed by their supervisors.

Results of Document Analysis: Interventions that Support Students in Feedback, and the feedback Tasks of Supervisors and Practical Trainers

Feedback During Action (i.e., Reflection-in-Action). In both data from the apprenticeship books of School 1 and 2, I did not find an intervention corresponding with feedback while students perform an action. I also did not find data in the job profile of the supervisor and the job profile of the practical trainer corresponding with supervisors and/or practical trainers giving feedback while students perform an action.

Feedback After Action (i.e., Reflection-on-Action). Data from both apprenticeship books of School 1 and 2 showed that students are supported by a feedback form to ask for feedback after performing the action to reflect-on-action. School 1 uses a feedback form consisting of three thumbs: thumbs-up (i.e., good), thumbs to the side (i.e., sufficient), and thumbs-down (i.e., not yet sufficient). Students should ask their supervisors to fill in this form to see which tasks or goals have been sufficiently developed and need to be developed. School 2 also uses feedback forms to support students in asking feedback after action to reflect-on-action. This feedback form consists of three columns: 1) Apprenticeship practice assignments related to learning goals; 2) Feedback, and 3) Feedback from who. After performing an apprenticeship practice assignment, students should ask their supervisors for feedback on how well the assignment is performed related to the learning goal. In data of the job profile of the supervisor, I found that supervisors have the tasks to regularly provide feedback on the work

and actions performed. No data was found on the feedback tasks of the practical trainers in the job profile of the practical trainer.

Table 4

Results from Document Analysis

		Interventions from Apprenticeship book of School 1 and School 2						School 2	Co-regulatory tasks of supervisors and practical trainers		
		SMART goals	Rubrics	Weg-wijzer	PDP and PAP	Inter-views	Feed-back form	Feed-back list	STARRT form	Co-regulatory tasks of supervisors from the Job profile of the supervisor	Co-regulatory tasks of practical trainers from Qualification file
SRL	Forethought phase									<ul style="list-style-type: none"> • Linking students' assignments and competencies to learning goals 	<ul style="list-style-type: none"> • Drawing up learning plan: coordinating goals, actions, time, and resources • Recognizing and naming learning and development needs • Discussing development opportunities
	Performance phase									<ul style="list-style-type: none"> • Proposing to improve students' learning process • Taking precautions or intervening • Giving students opportunities to structure learning process • Identifying and discussing 	Data did not show co-regulatory tasks of the practical trainers

										opportunities/ bottlenecks	
	Self- reflection phase									<ul style="list-style-type: none"> Organizing, signalling, and adjusting learning activities 	<ul style="list-style-type: none"> Shared reflection of learning goals, process and performance in individual and group interviews
	Whole cycle of SRL									See the co-regulatory tasks of supervisors and practical trainers per SRL phase in the rows above.	
CoRL	Whole cycle of SRL									See the co-regulatory tasks of supervisors and practical trainers per SRL phase in the rows above.	
Feed back	Feedback after action to reflect- on-action									<ul style="list-style-type: none"> Regularly providing feedback immediately on the students' performance 	Data did not show feedback as in DP tasks of practical trainers.

Note. A grey background means that the category from the document analysis is corresponding with a learning intervention from one of the documents. Categories that did not correspond with a learning intervention, are excluded from the table.

The Analysis and Exploration phase: Problem Analysis

To understand the problems students, supervisors and practical trainers experience regarding the concepts of SRL, including asking/for giving feedback, I formulated the following question:

Question 2: *What are the problems regarding the concepts of SRL, including asking for/giving feedback, according to students, supervisors, and practical trainers?*

The Analysis and Exploration phase: Methods of the Problems Analysis

Qualitative research is conducted to answer Question 2. I conducted interviews with students, supervisors, and practical trainers to approach the problem analysis. By analysing the problems, we better understand the design context that tells us something about the needs of the students, supervisors, and practical trainers (Reeves, 2006).

Methods of the Problems Analysis: Respondents

To answer the second question of the Analysis and Exploration phase, I selected respondents for the problem analysis by a non-probability quota sampling technique. I chose this technique to balance the participation of different categories (i.e., strata). In the sample, I aimed for a size of 15 respondents, consisting of three strata with a quota of five units each: students (n = 5), supervisors (n = 5) and practical trainers (n = 5). First, I divided the population into the three strata: students, supervisor, and practical trainers.

Students. The population of the students consisted of approximately 80 caregiving students (i.e., MBO Niveau 3 Verzorgende-IG), doing an apprenticeship at the eldercare centre. The population was mainly female, and varied from students in middle adolescence (i.e., ages 16 and 17) to students in young and middle adulthood (i.e., ages 18-60). This broad age range can be clarified by that some students started their apprenticeship right after graduating high school, whereas the middle adulthood are retrained in caregiver education at the eldercare centre.

Supervisors. The population of the supervisors consisted of approximately 20 caregiver supervisors in middle adulthood who supervise caregiving students doing an apprenticeship at

the eldercare centre. All supervisors had an educational background in healthcare, were employed as caregivers at the eldercare centre, and were trained in supervising. The population was mainly female.

Practical trainers. The population of the practical trainers consisted of seven practical trainers in middle adulthood who supervise the caregiving students and supervisors. All practical trainers were female, had an education in healthcare, and were educated in being a practical trainer.

Second, I tried to sample units per strata until reaching the desired quota. No distinction was made between gender, age, and school year/work experience. When not reaching the desired quota, I used a snowball sampling technique by asking units whether they knew another unit to interview. Ultimately, a sample size of 11 ($n = 11$) was reached, consisting of five students ($n = 5$), two supervisors ($n = 2$) and four practical trainers ($n = 4$). According to Onwuegbuzie and Collins (2007), the sample size should be informed primarily by the research goal, questions, research design, and context. Nonetheless, they advise a minimum of 12 respondents with \geq three participants per strata. This means that the sample of my master's thesis is not considered reasonable and could affect the reliability and validity of the results. The results of this study are therefore difficult to generalize to a larger group of caregivers.

Methods of the Problems Analysis: Instrumentation

To gather data, I developed semi-structured interviews for each stratum (Appendices B, C, and D). The interviews consisted of questions to research participants' problems regarding the concepts of SRL by Zimmerman (1989), CoRL and feedback. No data was collected regarding respondents' demographic characteristics so that results could not be directed to an individual. Each semi-structured interview was structured in the same sets of questions. First, I developed general questions about the role of the reflective practice professional at the eldercare centre (e.g., "To what extent does the role and description of the reflective practice professional sound familiar to you?"). Second, I developed questions about the SRL forethought phase (Zimmerman, 1989) and to what extent CoRL plays a role (e.g., "What is your experience with students who set their own learning goals? How do you help the student formulate learning

goals?”). Third, I developed questions about the SRL performance phase (Zimmerman, 1989) and to what extent CoRL plays a role (e.g., “How do students monitor their actions and behaviour while performing the plan to achieve their goals? How do you guide students in this?”). Fourth, I developed questions about the SRL self-reflection phase (Zimmerman, 1989) and to what extent CoRL plays a role (e.g., “To what extent do students succeed in reflecting on their learning performance and functioning? What do you think students need to make reflecting always part of the students' daily practice?”). Fifth, I developed questions about feedback (e.g., “To what extent do you ask for feedback from others?”).

Methods of the Problems Analysis: Procedure

After developing instrumentation, the Ethics Committee of Humanities and Social Sciences of Twente University approved the methods of the problem analysis, since the methods involves human participants. After approval, I approached all students, supervisors, and practical trainers by mail to participate in the interviews. Besides approaching units per mail, the apprenticeship coordinator approached practical trainers during a monthly meeting to participate in the interviews. After this, the practical trainers approached the supervisors during a weekly meeting to participate in the interviews. Next, the supervisors approached the students in the workplace to participate in the interviews. All units that responded to my invitation, participated in my study. An exception is made for two supervisors who withdrew their participation due to pressure in the workplace. I informed respondents by mail about the goal of my master’s thesis, and the anonymous and confidential data processing (Appendix E). Besides, I asked them to fill in informed consent (Appendix F) and an Excel sheet to sign up for a telephone or face-to-face interview during working hours or spare time. Before starting the interviews, I asked all respondents if I was allowed to audio record and transcribe the interviews. After the interviews, I transcribed all audio recordings with permission. After transcribing all interviews, audio recordings were deleted. The transcribed interviews were then translated from Dutch to English to use in my master’s this, which can influence the content validity.

Methods of the Problem Analysis: Data Analysis

For generating qualitative data from the interview transcripts, I analysed data through content analysis in computer software ATLAS.ti. I did this by following seven steps of an inductive category formation approach (Mayring, 2014). The aim of this approach was to reduce data to categorized problems of students, supervisors, and practical trainers towards the two concepts of SRL, and feedback.

The first step I took was breaking down Question 2 into sub-questions corresponding to SRL (Zimmerman, 1989), CoRL, and feedback (Table 5). Mayring (2014) suggests that these questions need to align with an inductive reasoning approach, whereby the categories that emerge from the questions are descriptive in nature. The second step I took, was defining the category definition and level of abstract per sub-question (Table 5). The category definition functions as a criterion for selecting the pertinent data from interview texts that align with the category (Mayring, 2014). As a third step, I coded the interview texts. I read all data, examining each line one-by-one, to determine if the data aligned with the given category definition. Whenever I read data that met the category definition, I established a category corresponding to the level of abstraction. For an overview of the categories, I refer to Appendix G. The fourth step was revision. Although no inter-coder reliability took place, which can influence the reliability of the results, I revised the scheme till the category system became stable. I checked that the category system fitted the sub-questions. Fifth, I proceeded to code all material using the same rules of category definition and level of abstraction. After coding all material, I compiled a list of categories. Sixth, I organized these categories into main categories that served the purpose of addressing the questions (Mayring, 2014). The seventh and final step involved presenting the results that are described the following section.

Table 5

Sub-Questions with Corresponding Category Definition and Level of Abstraction

Sub-question	Category Definition	Level of abstraction
What are the problems regarding SRL (Zimmerman, 1989) during the apprenticeship according to	Perceived problems for students being able to perform one of the SRL phases (i.e., forethought, performance and self-reflection	Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for

students, supervisors and practical trainers?	phase) or the whole cycle of SRL (Zimmerman, 1989) during the apprenticeship.	students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.
What are the problems regarding CoRL during the apprenticeship according to students, supervisors and practical trainers?	Perceived problems for being able to co-regulate students' learning in one of the SRL phases (i.e., forethought, performance and self-reflection phase) or the whole cycle of SRL (Zimmerman, 1989) during the apprenticeship.	Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.
What are the problems regarding feedback during the apprenticeship according to students, supervisors and practical trainers?	Perceived problems regarding students asking/or giving feedback (in-or-on-action) during the apprenticeship.	Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.

Problem Analysis: Results

In the next sections, I describe the main categories that address the sub-questions, and I elaborate on the most important findings. In Appendix G, you can find all the detailed results of the problem analysis, including the subcategories.

Results of the Problem Analysis: Problems Regarding SRL (Zimmerman, 1989)

The problem analysis showed six categories corresponding to problems regarding SRL (Zimmerman, 1989) during the apprenticeship according to students, supervisors and practical trainers: a lack of time, textual assignments, difficulties in self-reflection, lack of planning skills, not seeing relevance and a lack of independence (Table 6).

Table 6

Results of Problem Analysis Regarding SRL

Main categories	N	% of C	N of P	% of P
A: Lack of time	15	34%	5 students 1 supervisor 2 practical trainers	100% of students 50% of supervisors 50% of practical

				trainers
B: Textual assignments	9	20,5%	2 students 1 supervisor 0 practical trainers	40% of students 50% of supervisors 0% of practical trainers
D: Difficulties in self-reflection	7	16%	1 student 1 supervisor 3 practical trainers	20% of students 50% of supervisors 75% of practical trainers
C: Lack of planning skills	6	14%	2 students 2 supervisors 1 practical trainer	40% of students 100% of supervisors 25% of practical trainers
E: Not seeing relevance	5	11%	0 students 1 supervisor 2 practical trainers	0% of students 50% of supervisors 50% of practical trainers
F: Lack of independence	2	4,5%	0 students 1 supervisor 2 practical trainers	0% of students 50% of supervisors 0% of practical trainers
	Σ 44	100%	5 students 2 supervisors 3 practical trainers	–

Note. Column 1 overviews the resulted categories ordered by frequency; Column 2 the number of text passages corresponding to the category (i.e., N of C); Column 3 the number of text passages in percentages relative to all text passages (i.e., % of C); Column 4 the number of participants corresponding to the text passages (i.e., N of P), and; Column 5 the percentages relative to all participants (i.e., % of P).

A: Lack of Time. Table 6 shows us that the most frequently mentioned problem for students to self-regulate their learning during the apprenticeship is a lack of time (i.e., Category A). This problem is named by all interviewed students, and the half of the interviewed supervisors and practical trainers. Although some students see the importance of setting goals (i.e., SRL forethought phase, Zimmerman, 1989) and self-reflection (i.e., SRL self-reflection phase, Zimmerman, 1989), they mention they do not have the time to do so. For example, one student explained: “I do think it is important to set goals but there is no time”, whereas another student explained: “It would be really good to do that [reflecting] but I do not think there is time for that.” One supervisor and one practical trainer agree that there is often no room for

planning and reflection during the apprenticeship practice. One practical trainer suggested that room should be made around coffee time to make time for this. In general, two students and two practical trainers agreed that there is a lack of time in general. For example, one student emphasized: “But really time... in healthcare you have so little time, really bizarre.”

B: Textual Assignments. Another problem that is frequently mentioned, is the problem regarding textual assignments that are connected to SRL. However, we should keep in mind that only two students and one supervisor mentioned this problem. None of the practical trainers mentioned this problem. An explanation might be that practical trainers do not guide students in the textual assignments in the workplace. Students do this with the supervisors. Given the small sample size of this research, interpretation of these results might be problematic considering the reliability. Nonetheless, students experience difficulties in documenting the textual assignments. For example, one student argued that writing down a SMART goal (i.e., SRL Forethought phase, Zimmerman, 1989), step-by-step, is too theoretical for the student’s practical approach. Another student would like to see self-reflection in practice (i.e., SRL self-reflection phase, Zimmerman, 1989), while discussing self-reflection with colleagues. Writing down self-reflection is not in the favour of the student. One supervisor argued why students might face difficulties in textual assignments regarding SRL: “If they should write a reflection report, they keep it quickly and superficially, while the assignment’s invitation is to go in-depth: start analysing your own behaviour, thoughts, and feelings. Some find that difficult or do not yet understand that is the intention.”

C: Difficulties in Self-Reflection. Related to the previous problem where a supervisor argued that students self-reflect superficially in textual assignments, the third frequently mentioned problem is difficulties in self-reflection (i.e., SRL Self-reflection phase, Zimmerman, 1989). Concerning the students, I noticed that only one student named this problem. It is noteworthy to mention that particularly this student self-reflected on its own self-reflection skills: “I often find it difficult to think of what went wrong. I often do not see this very well or only the bad side and that is often not the intention.” Why other students may not have addressed this problem, could be explained by that not all students have a clear understanding

of what self-reflection entails. As one supervisor explained: “They sometimes do not understand what reflection is or what is expected from them.” One practical trainer had the same perspective: “You always must explain to them what reflection exactly is. That is what people find very difficult.” The practical trainer suggested that self-reflection is something they need to learn at the start of the apprenticeship: “Make it clear, so students can expect and know how to reflect.”

D: Lack of Planning Skills. Less frequently mentioned than the aforementioned problems is the lack of planning skills (i.e., SRL forethought phase, Zimmerman, 1989). Two students, two supervisors and one practical trainer agreed that students face difficulties in making a plan to achieve goals. Only one practical trainer mentioned this problem. This could be explained by the fact that practical trainers do not directly supervise the students in the workplace, and therefore have fewer opportunities to observe the students in planning skills compared to the supervisors.

E: Not Seeing Relevance of Setting Learning Goals and Self-Reflection. The half of the supervisors and practical trainers mentioned that some students do not see the relevance of goalsetting (i.e., SRL forethought phase, 1989) and self-reflection (i.e., SRL self-reflection phase, Zimmerman, 1989). This could be problematic for students to self-regulate their learning because SRL is driven on internal motivation to perform the SRL phases of Zimmerman (1989). However, we should keep the small sample size in mind that could affect the reliability of these results. Previous results showed that students see the relevance of goalsetting and self-reflection but do not have the time to do so (i.e., A: Lack of time).

F: Lack of Independency: Only one supervisor mentioned that students “either cling to school, or they cling to us, or both, but really [to self-regulate learning] by themselves... There are few students who are capable of doing that.” However, I consider this problem as an important finding, emphasizing the need of guidance in SRL, in other words: CoRL.

Results of the Problem Analysis: Problems Regarding CoRL

The problem analysis showed six categories addressing the problems regarding CoRL during the apprenticeship according to students, supervisors and practical trainers (Table 7). I will describe the most important findings beneath Table 7.

Table 7

Results of Problem Analysis Regarding CoRL

Main categories	N	% of C	N of P	% of P
G: Lack of time with supervisor in the workplace	9	35%	3 students 1 supervisor 1 practical trainer	60% of students 50% of supervisors 25% of practical trainers
L: Learning interventions that lack social interaction	5	19%	1 student 1 supervisor 0 practical trainers	20% of students 50% of supervisors 0% of practical trainers
I: Students not feeling supported in learning process by colleagues	4	15%	2 students 1 supervisor 0 practical trainers	40% of students 50% of supervisors 0% of practical trainers
K: Supervisors face difficulties in practicing/supporting students in the role of the reflective practice professional	4	15%	0 students 0 supervisors 3 practical trainers	0% of students 0% of supervisors 75% of practical trainers
H: Lack of guidance in students' SRL by supervisors	2	8%	1 student 0 supervisors 1 practical trainer	20% of students 0% of supervisors 25% of practical trainers
J: Lack of staff	2	8%	1 student 0 supervisors 0 practical trainers	20% of students 0% of supervisors 0% of practical trainers
	∑ 26	100%	5 students 2 supervisors 3 practical trainers	–

Note. Column 1 overviews the resulted categories ordered by frequency; Column 2 the number of text passages corresponding to the category (i.e., N of C); Column 3 the number of text passages in percentages relative to all text passages (i.e., % of C); Column 4 the number of participants corresponding to the text passages (i.e., N of P), and; Column 5 the percentages relative to all participants (i.e., % of P).

G: Lack of Time with Supervisor in the Workplace. The most frequently mentioned for supervisors to co-regulate students' learning, is the lack of time between students and supervisors in the workplace. I prioritize this problem as one of the most important findings because this problem is the only mentioned problem by all three strata. Not only supervisors lack in time to guide students in the workplace, students and supervisors often have different work shifts. As a result, students sometimes only work a full shift with the supervisors once a week or every two weeks. At other times, students and supervisors only see each other during work shift transfers.

L: Learning Interventions Lack Social Interactions. The problem of learning interventions that lack social interaction is the second most frequently mentioned problem regarding CoRL. However, we should keep in mind that only one student and one supervisor mentioned this problem. Given the small sample size, this could affect the reliability of the results. Nevertheless, I prioritize this finding as important because I consider social interaction to be clear design requirement for the prototype. One student was critical of the non-social nature of written self-reflection assignments: "You can easily write down that something is going well, without a reason behind it, then I prefer someone to discuss it with face-to-face. Suppose you do not agree, you discuss this in person." One supervisor also recognized the added value of social interaction: "It also shows that the learning method itself is insufficient. You need someone who can help with the experience of reflecting, setting goals and planning."

I: Students not Feeling Supported in Learning Process by Colleagues. I continue with the problem of students not feeling supported in the learning process by colleagues. Two students feel a lack of engagement and care of supervisors, and other colleagues, in their learning process. A remarkable text passage from a student is: "I want to change this... I want to get better at this... but now I bump into the fact that other colleagues do not really care. Then you are told: 'Let it go because nothing will happen anyway.'" One supervisor mentioned a lack of motivation for supervisors to be supervisors: some supervisors are supervisors because they need to, not because they want to. According to the supervisor, students were less happy in departments because they were less guided by these supervisors. Given the sensitive

information involved, it might be explained why this problem is only mentioned by two students and one supervisor.

K: Supervisors Face Difficulties in Practicing/Supporting Students in the Role of the Reflective Practice Professional. That students do not feel supported in the learning process might be clarified by problem K: supervisors face difficulties in practicing/supporting students in the role of the reflective practice professional. What stands out is that only three practical supervisors mentioned this problem. This can be explained, among other reasons, by the fact that practical trainers guide the supervisors in supervising students. According to practical trainers, supervisors find supporting students in the role of the reflective practice professional challenging because they struggle themselves with goalsetting and self-reflection (i.e., SRL forethought and self-reflection phase, Zimmerman, 1989), let alone guiding students in this. Additionally, according to two practical trainers, not all supervisors are aware of the CanMEDS roles, even though they are supposed to train and evaluate students in these roles.

H: Lack of Guidance in Students' SRL by Supervisors. Related to problem I and K, another mentioned problem is the lack of guidance from supervisors in students' SRL processes. For example, one student needed more guidance from supervisors in goalsetting because the student found it hard to determine what goals need to be achieved (i.e., SRL forethought phase, Zimmerman, 1989). One practical trainer suggested that supervisors should play a greater role in discussing self-reflection with students in the workplace to guide students in self-reflection (i.e., SRL self-reflection phase, Zimmerman, 1989).

Results of the Problem Analysis: Problems Regarding Feedback

The problem analysis showed seven categories addressing the problems regarding feedback during the apprenticeship according to students, supervisors and practical trainers: a lack of time, an unsafe feedback culture, indirect, negative and not-related-to-goal feedback, feedback (forms) considered as not useful, a lack of staff, students not asking for feedback, and supervisors lacking in feedback giving skills (Table 8). I will describe the most important findings beneath Table 8.

Table 8*Results of Problem Analysis Regarding Feedback*

Main categories	N	% of C	N of P	% of P
N: Lack of time	9	26%	3 students 1 supervisor 1 practical trainer	60% of students 50% of supervisors 25% of practical trainers
O: Unsafe feedback culture	8	23%	3 students 0 supervisors 2 practical trainers	60% of students 0% of supervisors 50% of practical trainers
M: Indirect, negative and not-related-to-goal feedback	7	21%	2 student 0 supervisors 0 practical trainers	40% of students 0% of supervisors 0% of practical trainers
P: Feedback (forms) considered not useful	3	9%	2 students 0 supervisors 1 practical trainer	40% of students 0% of supervisors 25% of practical trainers
Q: Lack of staff	3	9%	2 students 0 supervisors 0 practical trainers	40% of students 0% of supervisors 0% of practical trainers
R: Students do not ask for feedback	2	6%	0 students 2 supervisors 0 practical trainers	0% of students 100% of supervisors 0% of practical trainers
S: Supervisors lack in feedback giving skills	2	6%	0 students 0 supervisors 2 practical trainers	0% of students 0% of supervisors 50% of practical trainers
	Σ 34	100%	5 students 2 supervisors 3 practical trainers	–

Note. Column 1 overviews the resulted categories ordered by frequency; Column 2 the number of text passages corresponding to the category (i.e., N of C); Column 3 the number of text passages in percentages relative to all text passages (i.e., % of C); Column 4 the number of participants corresponding to the text passages (i.e., N of P), and; Column 5 the percentages relative to all participants (i.e., % of P).

N: Lack of Time. Again, the most frequently mentioned problem is a lack of time. This problem is the only problem mentioned by all three strata. The lack of time applies to

supervisors and other colleagues having too little time to give feedback to students, and students having too little time to ask for feedback.

O: Unsafe Feedback Culture. What stands out is the unsafe culture, mentioned by three students and two practical supervisors. Supervisors did not mention this problem. This may be due to the sensitive nature of the information and the fact that I only interviewed two supervisors. Two students indicated that feedback is not addressed in a pleasant manner. "Addressing colleagues in a normal way when something is not going well... At first, we had some trouble with that in the team." The other student mentioned receiving harsh feedback. Another student had an experience with the supervisor where the supervisor was concerned because the student asked too many questions. Other examples that categorize the unsafe feedback culture include feelings of guilt and being judged. "I feel like I am bothering my colleagues all the time," told one student. One practical trainer recognized this: "And that is what it makes it so difficult sometimes. That students feel guilty when it is too busy, or that they do not dare to ask for feedback. They just quietly continue their business."

R: Students Do Not Ask for Feedback. One of the least mentioned problems is that students do not ask for feedback. As one supervisor said: "Only rarely happens that the student asks for feedback." However, I want to prioritize this problem here. I want to relate this problem to the previously mentioned unsafe feedback culture. I suggest a possible connection between an unsafe feedback culture, where students feel guilty and judged when asking for feedback, and the text passages from two supervisors stating that students do not ask for feedback.

P: Feedback (Forms) Considered Not Useful. Another explanation why students do not always ask for feedback, is that some students do not consider feedback (forms) as useful. Students need to ask feedback, using a feedback form, multiple times a week. One student told the following challenge: "When you have to hand in so much feedback forms a week, you sometimes do not know what to do or how you want to do it. Then you just run with things that are not interesting or do not necessarily help you." Another student considered feedback as not useful because the student is already working in healthcare for years, and is now retrained in

caregiving. The student even said: “I must remember myself to ask for feedback, which I find difficult and nonsense because I have been working in healthcare for so long.” This passage is interesting, since a big part of the eldercare centre’s students works for a longer period in the healthcare sector, and being retrained in caregiving.

M: Indirect, Negative and Not-Related-to-Goal feedback, and S: Supervisors Lack in Feedback Giving Skills. Lastly, I want to discuss these two problems as important findings. Only two practical trainers mentioned that some supervisors lack in the skills to give feedback. I value the practical trainers’ insights since they guide and train supervisors in supervising the students. Students experiencing problems in receiving indirect instead of direct feedback, negative rather than positive feedback, and receiving feedback that is not related to learning goals (i.e., problem M), may be brought in relation to supervisors who lack in the skills to provide effective feedback (i.e., Problem S).

Q: Lack of Staff. Finally, it should be noted that there are not always enough staff members in the workplace for students to give, ask, and receive feedback. However, this problem was only mentioned by two students. Given the small sample size, we need to be cautious in interpreting these results.

The Analysis and Exploration phase: Conclusion

In the Analysis and Exploration phase, I researched two questions to better understand the status-quo and problems regarding the concepts of SRL, including asking for/giving feedback in the apprenticeship practice of the eldercare centre.

Question 1: *Which learning interventions have already been developed to support caregiving students during their apprenticeship in concepts of SRL, including asking for/giving feedback? And what are the co-regulatory and feedback tasks of supervisors and practical trainers this?*

Question 2: *What are the problems in the apprenticeship regarding the concepts of SRL, including asking for/giving feedback, according to students, supervisors and practical trainers?*

To answer the first question, I did a document analysis. To answer the second question, I conducted a problem analysis by interviewing the students, supervisors and practical trainers. The results of the analyses resulted in a status quo: students are already supported in concepts of SRL, including asking for giving feedback, by several learning interventions and co-regulatory tasks of supervisors and practical trainers. However, to reach the eldercare centre's desired states where students take the role of S-BB's reflective practice professional (2020) by SRL, we see that students are hindered by several problems. The most frequently named problem regarding the concepts of SRL, including asking for/giving feedback is a lack of time. While thinking about a solution, I always need to keep time efficiency in mind.

In the next sections, I am going to give an integrated answer to both questions. Per concept of SRL, including asking for/giving feedback, I conclude the gap between the status quo and the desired states. This gap needs to be closed in the learning solution of the Design and Construction phase.

Gap Between Status-Quo and Desired States: SRL Forethought Phase

Both schools utilize the SMART tool to support students in the SRL forethought phase (Zimmerman, 1989). However, during the problem analysis, I found that some students struggle with textual assignments, including writing SMART goals. Another problem is that writing SMART goals does not happen in social interaction with other peers and colleagues. The argument raised that writing SMART goals is seen as theoretical rather than practical. To address this, supervisors play a crucial co-regulatory role in linking students' apprenticeship assignments and competencies to their learning goals, as indicated in the document analysis. Nevertheless, the problem analysis revealed that some supervisors face difficulties in guiding students in goalsetting, and goalsetting. Closing this gap becomes essential in the learning solution during the Design and Construction phase.

Gap Between Status-Quo and Desired States: SRL Performance Phase

Learning interventions for supporting students in the SRL performance phase (Zimmerman, 1989) are not found. In this phase, supervisors have a crucial role in co-regulating students' learning directly in the workplace. They should propose improvements, intervene

when necessary, allow students to structure their learning process, identify and discuss opportunities and obstacles, and organize, signal, and adjust learning activities. However, the problem analysis revealed that not all supervisors fulfil these co-regulatory tasks. The main reason mentioned is the lack of time between supervisors and students in the workplace. Moreover, not all students feel adequately supported by supervisors in their learning process. One supervisor mentioned that not all supervisors are motivated to guide students in their learning process because they do not want to be supervisors, but had to be from the eldercare centre. This is something we need to take into account while designing a learning solution.

Gap Between Status-Quo and Desired States: SRL Self-Reflection Phase

In School 1, students use a rubric for self-reflection on their professional attitude (SRL Self-reflection phase, Zimmerman, 1989). In School 2, students have (1) rubrics for self-reflection on CanMEDS roles and (2) a STARRT form, which guides step-by-step self-reflection-on-action, using prompting questions. School 2's interventions are more specific in developing students in the role of reflective practice professionals (2020). Reflection on CanMEDS roles can increase students' awareness of their development in this role. Corresponding to the problems that some students do not understand what self-reflection entails, or how to critically self-reflect, the STARRT form provides guidance for reflection-on-action (Schön, 1989). However, the STARRT form is a textual assignment without social interaction with other peers and colleagues, what some students find problematic. Document analysis indicates that supervisors have co-regulatory tasks to stimulate self-reflection, and practical trainers facilitate individual and group interviews for students to reflect on learning goals. The STARRT tool can be utilized in these social interactions. Closing this gap is necessary in the learning solution during the Design and Construction phase.

Gap Between Status-Quo and Desired States: Whole SRL Cycle

Both schools provide students with the Wegwijzer, PDP, and PAP, supporting the entire SRL cycle (Zimmerman, 1989). The Wegwijzer guides students methodically through the SRL forethought, performance, and self-reflection phases. The PDP allows students to determine their learning goals and plan (i.e., SRL forethought phase, Zimmerman, 1989). Students perform

actions aligned with their goals stated in the PAP (performance phase, Zimmerman, 1989). Afterward, students engage in self-reflection on the PAP (i.e., SRL self-reflection phase, Zimmerman, 1989), allowing students to set new goals to complete the SRL cycle. However, identified barriers from the problem analysis must be considered. Both interventions lack social interaction among students, peers, and colleagues, which students find unfavourable. Additionally, they require planning and self-reflection skills, which some students lack. Supervisors should co-regulate students' learning in the SRL forethought and self-reflection phases (Zimmerman, 1989). However, not all supervisors possess the necessary skills to support students in setting goals and self-reflection, creating gaps to be addressed in the learning solution during the Design and Construction phase.

Gap Between Status-Quo and Desired States: Co-Regulation

Based on the document analysis, students receive support throughout the SRL cycle (Zimmerman, 1989) through co-regulatory interviews with supervisors and practical trainers. However, the process of writing the PDP and PAP lacks social interaction among students, colleagues, and peers. The co-regulatory interviews provide opportunities for students to determine (i.e., SRL forethought phase, Zimmerman, 1989), perform and adjust (i.e., SRL performance phase, Zimmerman, 1989) and self-reflect (i.e., SRL self-reflection phase, Zimmerman, 1989) on the PDP and PAP in social interaction with supervisors and practical trainers. Instead of limited moments like interviews, we aim for continuous co-regulation of students' learning in the workplace by supervisors. However, several issues hinder this approach. Students face time constraints with supervisors in the workplace and lack support from colleagues in their learning process. Additionally, supervisors themselves struggle with goalsetting and supporting self-reflection in the workplace, making it challenging to guide students in these areas. Furthermore, not all supervisors are familiar with the CanMEDS roles, which makes training and assessing students in these roles complicated. Closing these gaps becomes crucial in the learning solution.

Gap Between Status-Quo and Desired States: Feedback

Students receive support in asking for feedback through feedback forms and a feedback list. They request supervisors to complete the feedback form, providing reflection-on-action (Schön, 1983). It is the supervisors' responsibility to provide regular feedback. Students document feedback forms in a feedback list for reflection-on-action and to establish improvement goals. However, the problem analysis revealed that students do not always ask for feedback. Some students work for a longer period in the healthcare, unsure why or what they should ask feedback for. Another problem is the presence of an unsafe feedback culture. Students receive feedback in an unpleasant manner, feel guilty when asking for feedback, and perceive judgment in the feedback they receive. Not all supervisors possess the necessary skills to provide feedback effectively, resulting in feedback that is not timely, aligned with students' goals, or given constructively. Closing this gap requires addressing these challenges in the learning solution.

The Analysis and Exploration phase: Synthesis

In this paragraph, I synthesize the findings from the Analysis and Exploration phase by producing four main products: revised problem definition, long-range goals, partial design requirements, and initial design proposition. These products are the input for the Design and Construction phase.

Synthesis of the Analysis and Exploration phase: Problem Definition

As pointed out in the initial orientation, I was focused on a learning solution that *supports students to become self-regulated learners, including asking for/giving feedback, to become reflective practice professionals*. Textual learning interventions that support students in SRL, including asking for/giving feedback, without the social interaction between students and colleagues, are not sufficient for students to become reflective practice professionals. For students to become reflective practice professionals by SRL, I now understand that supervisors should co-regulate students' learning. However, supervisors are yet insufficiently prepared for co-regulating students' learning, including asking for/giving feedback. For example, they

struggle with guiding students in goalsetting and self-reflection, and are not even skilled to give feedback constructively, which does not promote the apprenticeship's feedback culture. This leads us to a switch of the learning solution's user. Where the solution initially should be designed and constructed for the students, I now am going to design and construct a solution for the supervisors. When the solution is designed effectively, students will eventually benefit from the solution to become reflective practice professional. Hence, I specify the initial problem statement and draw the attention to: *supporting the eldercare centre's supervisors in co-regulating students' learning, including promoting asking for/giving feedback, so students take the role of the reflective practice professional.*

Synthesis of the Analysis and Exploration phase: Long-Range Goal

The long-range goal specifies the overall aim of the learning solution that is going to be prototyped in the Design and Construction phase, addressing the problem statement (McKenney & Reeves, 2012). To tackle most of the problems underlying the gap between the status quo and the desired states, the long-range goal of my learning solution is: *Supervisors know what is required for students to take the role of the reflective practice professional and effort to put this into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection through social interactions, and promoting asking for/giving feedback?*

Synthesis of the Analysis and Exploration phase: Partial Design Requirements

Design requirements tell what needs to be accomplished in a specific setting (McKenney & Reeves, 2012). In relation to the problem definition and long-range goal, the learning solution should:

- Address the following problems:
 - The learning solution should make supervisors aware of (training students in) the role of the reflective practice professional;
 - The learning solution requires social interaction between students and supervisors;

- The learning solution supports supervisors in guiding students in goalsetting;
- The learning solution supports supervisors in guiding students in self-reflection;
- The learning solution supports supervisors in fostering the feedback culture;
- Take into account:
 - A lack of time between supervisors and students;
 - A lack of staff;
- Make use of the following opportunities:
 - Already existing learning interventions regarding concepts of SRL, including asking for/giving feedback;
- Be aware of the following threats:
 - Not all supervisors are internally motivated to supervise students in their learning process.
 -

Synthesis of the Analysis and Exploration phase: Initial Design Propositions

Design propositions tell us how design requirements can be approached to achieve the long-term goal (McKenney & Reeves, 2012). In Table 9, you see an overview of the partial design requirements and the initial design propositions on how to approach the initial design requirements. These requirements and propositions give us early ideas of potential solutions. In the Design and Construction phase, I further elaborate on these ideas by exploring and mapping potential solutions.

Table 9

Partial Design Requirements and Initial Design Propositions

Partial Design Requirement	Initial Design Proposition
DR1: The learning solution should make supervisors aware of (training students in) the role of the reflective practice professional.	DP1: Supervisors should be informed about the CanMEDS roles, the role of the reflective practice professional, and how they can guide students in this role.
DR2: The learning solution requires social interaction between students and supervisors.	DP2: Design the learning solution in a way that social interaction between students and supervisors takes

	place.
DR3: The learning solution supports supervisors in guiding students in goalsetting.	DP3: Supervisors should be trained in how to set goals, and how to train students in goalsetting.
DR4: The learning solution supports supervisors in guiding students in self-reflection.	DP4: Supervisors should be trained in how to self-reflect, and how to train students in self-reflection.
DR5: The learning solution supports supervisors in giving constructive feedback to foster the feedback culture.	DP5: Supervisors should be trained in giving constructive feedback.
DR6: Take a lack of time between supervisors and students into account.	DP6: Rearrange the time available between students and supervisors for supervisors to co-regulate students' self-regulated learning.
DR7: Take a lack of staff into account.	DP7: The solution can be used amongst students, peers, and colleagues other than supervisors.
DR8: Make use of already existing learning interventions regarding concepts of SRL, including asking for/giving feedback.	DP8: Add a social interactive element to the already existing learning interventions regarding concepts of SRL, including asking for/giving feedback.
DR9: Motivate supervisors to guide students in their learning process.	DR9: Highlight the benefits for supervisors to support students in the role of the reflective practice professional.

The Design and Construction Phase

During the Analysis and Exploration phase, I identified the problem definition, long-range goal, partial design requirements, and partial design propositions. These products described my early thoughts of the challenges within the current situation, and how to tackle them. In the second micro-cycle of design and construction, I am going to design and construct an actual prototype to tackle these challenges. I point out again that this micro-cycle is not described empirically, but general-deliberatively. The design phase consists of two main processes: exploring solutions and mapping solutions (McKenney & Reeves, 2012). To explore solutions, I am going to generate ideas, consider ideas, and check ideas to tackle the challenges within the current situation. While exploring solutions, I collaborated with a practical trainer of the eldercare centre to generate, consider, and check ideas. From now on, I call this practical trainer the domain expert. The design phase continues with mapping solutions. I do this by redefining requirements and propositions, making a skeleton design, and specifying the detailed design, using the 4C/ID model (Merriënboer et al., 2002). In the construction phase, I am going to actually construct the design a prototype of the learning solutions.

The Design and Construction Phase: Questions

To further elaborate on the ideas of the Analysis and Exploration phase, I formulated the following question:

Question 3: What are potential solutions for supervisors to know what is required for students to take the role of the reflective practical professional, and to put this into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection through social interaction, and promoting asking for/giving feedback?

The Design and Construction Phase: Exploring and Mapping Solutions

In the next sections, I will describe how I explored solutions towards the challenges of the current situation by generating, considering and checking ideas with the domain expert.

Exploring Solutions: Generating Ideas

Idea 1: Training for Supervisors. Based on the partial design requirements and initial design propositions, I suggest that we should train supervisors. This training should focus on co-regulating students in SRL by guiding students in the CanMEDS role of the reflective practice professional (i.e., DP1), goalsetting and self-reflection and how to train students in these areas (i.e., DP3 and DP4), as well as providing constructive feedback (i.e., DP5). Consequently, my idea is to design and construct a comprehensive training programme for supervisors, aiming to equip them with the necessary skills to train students in the role of the reflective practice professional. This training programme should incorporate the aforementioned design propositions, covering topics such as goalsetting, self-reflection and constructive feedback.

Idea 2: Re-Design Existing Learning Interventions. To facilitate social interaction between students and supervisors (i.e., DP2), it is important to consider the limited availability of staff (i.e., DR7). Therefore, it would be beneficial if the proposed learning solution allows for social interaction not only between students and supervisors, but also among peers and other colleagues (i.e., DP7). The document analysis has revealed the existence of learning interventions that already support students in concepts of SRL and in asking for/giving feedback. Leveraging these existing learning interventions by incorporating social elements would enable interaction between students, peers and colleagues. This approach effectively addresses the design requirements of facilitating social interaction between students and supervisors (i.e., DR2) and utilizing existing learning interventions (i.e., DR8). As a result, my second idea revolves around the redesign of current learning interventions to incorporate social interaction between students, peers, and colleagues.

Idea 3: Structuring Available Time. Considering the design requirements of limited time availability between supervisors and students (i.e., DR6), it is necessary to propose a structured approach to utilize time that is available for supervisors to effectively co-regulate students in SRL. To achieve this, it is essential to first assess the frequency and duration of the available time between students and supervisors. Subsequently, a framework should be developed to organize and optimize this time, allowing supervisors to engage in co-regulating students in SRL.

The design and construction of tools are warranted to assist supervisors in goalsetting, self-reflection and constructive feedback. By incorporating these elements, my third idea centres around structuring the available time in a manner that maximizes the opportunities for supervisors to co-regulating students in SRL.

Exploring Solutions: Considering Ideas

I would like to emphasize that the generated ideas are intended to complement each other. For instance, it is important to train supervisors in guiding students in the role of reflective practice professionals before implementing the redesigned learning interventions and restructuring the available time. However, due to the limitations of a master's thesis scope, it is not feasible to develop prototypes for all three generated ideas. Consequently, it is necessary to collaborate with a domain expert to determine which idea is currently the most relevant and achievable for the eldercare centre. To compare the generated ideas effectively, I undertook two steps. First, I assessed whether the ideas aligned with the initial design requirements derived from the Analysis and Exploration phase. This assessment yielded a weighted ranking of the generated ideas in relation to the initial design requirements (Table 10). Subsequently, I engaged in a discussion with the domain expert to obtain their insights and opinions on the ideas. By considering both the weighted ranking and the input from the domain expert, we can make an informed decision regarding the most suitable and feasible idea to pursue at this stage.

Table 10

Weighted Ranking of Ideas in Relation to Design Requirements

	DR1: Awareness	DR2: Social interaction	DR3: Guiding goalsetting	DR4: Guiding self- reflection	DR5: Constructiv e feedback	DR6: Time	DR7: Staff	DR8: Existing learning intervention	DR9: Motivation
Idea 3: Structuring available time									
Idea 1: Training for supervisors									
Idea 2: Re-designing learning interventions									

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Note. In the rows, ideas are displayed in ranked order from up to down. In the columns, you see the paraphrased design requirements of the Analysis and Exploration phase. A grey background means that the idea fits the design requirement.

Idea 3: Structuring Available Time. This idea ranked the highest as it fulfilled the most initial design requirements. We aim to enhance supervisors' awareness of the reflective practice professional role (i.e., DR1) and promote social interaction between students and supervisors (i.e., DR2) by organizing their available time and providing them with tools for guidance. Specifically designed tools will equip supervisors with the necessary skills for goalsetting (i.e., DR3), fostering self-reflection (i.e., DR4), and providing constructive feedback (i.e., DR5). Existing learning interventions supporting goalsetting, self-reflection, and feedback (i.e., DR8) can be leveraged. However, it is important to acknowledge that this idea does not fully address staff shortages (i.e., DR7) and may not inherently motivate supervisors to actively engage in guiding students (i.e., DR9). Hence, these aspects should be incorporated during the design.

The input from the domain expert further reinforces the relevance and feasibility of this idea. The domain expert has indicated that a pilot program aligned with DR3, which involves supporting supervisors in guiding students in goalsetting, is already underway. In this pilot, at the beginning of each working shift from 8:00 – 8:15, the supervisor and approximately five students who start their working shift come together to discuss learning goals and feedback requests (i.e., co-regulation of SRL forethought phase). The domain expert reports that this stand-up approach has resulted in increased student commitment towards daily goals and a higher tendency to seek help or ask for feedback. The domain expert experienced that the students still have difficulties with documenting their goals. However, the domain expert also expressed the belief that it would be advantageous for students to have a daily closing session as well. At the end of the working shift, from 15:30 – 15:45, the students and supervisor come together again to close working shift. What we can do is structuring this time so the supervisor can co-regulate students in the SRL self-reflection phase. In this daily closing, the supervisor and students can reflect on the goals and feedback they have had set and requested. Taking into

account both the ranking of the idea and the domain expert's insights, it is evident that this idea holds substantial potential and practicality in addressing the identified design requirements.

Idea 1: Training for Supervisors. This idea is ranked second but complements Idea 3, which involves structuring available time. The proposed training serves as a foundation for supervisors to develop awareness and skills in guiding students as reflective practice professionals (i.e., DR1). It also provides training in goalsetting (i.e., DR3), self-reflection (i.e., DR4), and constructive feedback (i.e., DR5). During this training, supervisors can learn about the framework of structured time from Idea 3 and the redesigned learning interventions from Idea 2, and how to effectively implement them. However, it is important to note that social interaction between students and supervisors is not directly addressed in this training (i.e., DR2), which is more likely to be an outcome of Idea 1. Additionally, this idea does not specifically consider design requirements related to time constraints (i.e., DR6) and staff availability (i.e., DR7). Implementing the training would require allocating one or more half-day sessions. Furthermore, the motivation of supervisors to actively guide students in their learning process (i.e., DR9) has not been fully incorporated, and this aspect needs further development within the idea.

While this idea may not fully meet all design requirements, it can still contribute to a comprehensive solution when combined with other ideas. However, it is important to consider the domain expert's concerns about the effectiveness of formal training and the challenges of knowledge transfer to practical application. The domain expert highlighted that trained knowledge and skills tend to fade without regular reinforcement in the workplace. This suggests the need to supplement formal training with workplace learning opportunities for supervisors. Designing and implementing formal training programs, as well as facilitating workplace learning, require significant investments in terms of time and resources compared to other ideas. The domain expert expressed less favourability towards this idea. Nevertheless, I propose providing short, complementary formal training using cost-effective methods like computer-based training or instructional videos. These interventions can be developed and

implemented by practical trainers themselves, integrating them into weekly meetings between supervisors and practical trainers.

Idea 2: Re-Design Existing Learning Interventions. This idea has received the lowest ranking in terms of meeting the initial design requirements. As previously explained, this idea addresses the design requirements of social interaction (i.e., DR2), considering the lack of staff (i.e., DR7), and utilizing existing learning interventions (i.e., DR8). However, it is important to highlight that this idea should be viewed as complementary to the other ideas presented. The re-designed existing learning interventions can be effectively incorporated into the training programme outlined in Idea 1 and integrated with the structured time framework proposed in Idea 3. This integrated approach aligns with the overarching objective of ensuring that supervisors possess a clear understanding of the requirements for students to adopt the role of reflective practice professionals. Furthermore, it aims to empower supervisors to effectively co-regulate student in SRL through guiding students in goalsetting and self-reflection through social interaction. While this idea may have ranked lower in relation to the initial design requirements, its complementary nature enables it to contribute to the overall long-term goal of fostering effective supervision through co-regulating students in SRL for students to take the role of the reflective practice professional.

The domain expert also recognized the importance of making use of the existing learning interventions in a social context. Specifically, she mentioned the pilot program involving the daily stand-up. Students set goals under guidance of their supervisors and express their feedback request at the beginning of each shift, rather than relying solely on feedback forms. The domain expert observed that this approach has led to improvements in the feedback culture, as well as increased student engagement in seeking feedback and supervisors providing feedback related to students' goals. She expressed a desire to see Idea 2 integrated into the design of Idea 1.

Conclusion of Idea Consideration. Upon examination of the findings, it becomes apparent that the generated ideas complement each other remarkably well, as depicted in Table 10. Taking into account the domain expert's valuable insights, I made the decision to

prioritize the design and construction of the prototype centred around the concept of structuring available time (Idea 3). This prototype will encompass a framework with tailored tools to effectively support supervisors in co-regulating students in SRL, particularly in guiding them through goalsetting, self-reflection, and feedback through social interaction. These tools will be developed by leveraging existing learning interventions, incorporating social elements and harmonizing Idea 2 with Idea 3. However, it is crucial to highlight the significance of also considering Idea 1: Training for supervisors. While I will not be directly prototyping this idea, I strongly recommend its inclusion in the final recommendations for implementation. The supervisor training programme holds substantial value in equipping them to fulfil their role proficiently. By integrating Idea 1 alongside the prototyped Idea 3, we can establish a comprehensive approach that addresses various facets of the learning process and facilitates optimal guidance for students. In summary, the primary focus of the prototype design will revolve around Idea 3, while Idea 2 will be integrated. Furthermore, I emphasize the inclusion of Idea 1 in the overarching implementation strategy.

Exploring Solutions: Checking Ideas

McKenney and Reeves (2012) propose that logic modelling is a valuable tool for explicating the underlying assumptions and operational processes of ideas. By outlining an idea's inputs, processes, outputs, and results, logic models provide a comprehensive framework for analysis. In the following sections, I will present my key insights pertaining to the logic modelling of Idea 3: Structuring available time (Table 11).

Input. First, time and space are needed to facilitate the collaboration between students and supervisors in CoRL and SRL. This time is available during the daily stand-up from 8:00 to 8:15 and the daily closing from 15:30 to 15:45. Additionally, a dedicated space should be allocated for supervisors and students to gather. Once the time is established, a framework should be developed to structure and optimize the allocated time for supervisors engaged in co-regulating students in SRL. Furthermore, instructional tools should be provided to supervisors, equipping them with the necessary knowledge and skills to effectively engage in co-regulation within the framework, particularly in supporting goalsetting, self-reflection, and

feedback. These tools may include a **manual and worksheets**. Ideally, supervisors should be trained to ensure proficiency in these practices.

Processes. Prior to the daily stand-up and closing sessions, it is crucial for practical trainers to provide training or brief supervisors on effectively co-regulating students in SRL within the established framework, utilizing the provided instructional tools. In the daily stand-up, supervisors will engage in co-regulating students during the SRL forethought phase by encouraging goalsetting, facilitating goal discussions, and promoting the practice of asking for and giving feedback. Similarly, during the daily closing, supervisors will co-regulate students in the SRL self-reflection phase by supporting self-reflection, facilitating discussions on self-reflection, and addressing received feedback.

Outputs. By following the aforementioned processes, we ensure the allocation of dedicated time at the start of each working shift for students and supervisors to engage in discussions related to goalsetting and feedback requests. Similarly, time is also reserved at the end of the working shifts for students and supervisors to partake in self-reflection, emphasizing the established goals and addressing the received feedback. Throughout these interactions, both supervisors and students will make use of the tools that have been specifically designed to facilitate goalsetting, exchange of feedback, and self-reflection.

Outcomes. The outcomes correspond to the long-term goal that supervisors know what is required for students to take the role of the reflective practice professional, and put this into practice by co-regulating students in SRL in terms of goalsetting, self-reflection and feedback during the daily stand-up and closing. Another outcome is that students also know what is required to take the role of the reflective practice professional, and put this into practice by SRL in terms of goalsetting, self-reflection and feedback during the daily stand-up and closing.

Impact. For supervisors to co-regulating students in SRL during the daily stand-up and closing, we allow students to embody the reflective practice professional role. This active participation is expected to have a positive impact on various assessment measures. First, dedicating time to discuss feedback enables students to request more feedback, which can be recorded in their feedback list. Second, regular practice in the reflective practice professional

role enhances students' proficiency in the CanMEDS role and fosters a professional attitude. As a result, it is anticipated that there will be higher evaluations in the CanMEDS roles and professional attitudes rubrics, as well as improved assessments of CanMEDS roles and professional attitudes during mid-year and end-year evaluations.

Table 11

Logic Model of Idea 3: Structuring Available Time

Inputs <i>What is needed?</i>	Processes <i>Activities</i>	Outputs <i>Immediate results</i>	Outcomes <i>Effects</i>	Impact <i>Measurable change</i>
<p>A group of students and at least one supervisor coming together in the daily stand-up and closing.</p> <p>Time for students and supervisors to gather between daily stand-up (8:00 – 8:15) and closing (15:30 – 15:45).</p> <p>Dedicated space students and supervisors to gather.</p> <p>A framework to structure and optimize the allocated time for supervisors engaged in co-regulating students in SRL.</p> <p>Instructional tools, (preferably training), equipping supervisors with the necessary knowledge and skills to effectively co-regulate students in SRL within the framework.</p>	<p>Practical trainers train or brief supervisors in effectively co-regulating students in SRL within the framework with the use of the instructional tools.</p> <p>During the daily stand-up, the supervisor and students of the department will come together to discuss setting goals (i.e., co-regulating students in SRL forethought phase), where the supervisor promotes asking for/giving feedback.</p> <p>During the daily closing, the supervisor and students of the department will come together to discuss self-reflection and feedback (i.e., co-regulating students in the SRL self-reflection phase).</p>	<p>During the daily stand-up, students and supervisors come together to discuss goalsetting and feedback requests, making use of the designed tools.</p> <p>At the end of the shift, students and supervisors come together to self-reflect on the set goals, and discuss feedback, making use of the designed tools.</p>	<p>Supervisors know how to train students in the role of the reflective practice professional by co-regulating students in SRL in terms of guiding goalsetting, asking for/giving feedback, and self-reflection at the beginning and end of their shifts.</p> <p>Students act in the role of the reflective practice professional by taking the time for goalsetting, asking for/giving feedback, and self-reflection at the beginning and end of their shifts.</p>	<p>More feedback forms recorded in feedback list.</p> <p>Higher student evaluations in CanMEDS roles and professional attitudes rubrics.</p> <p>Positive assessment towards CanMEDS roles during mid-year and end-year weigh-in moments.</p>

Mapping Solutions: Refining Design Requirements and Design Propositions

After exploring solutions, McKenney and Reeves (2012) recommend revisiting, elaborating, and refining the design requirements and design propositions as described in Analysis and Exploration phase. In Table 12, you can overview the redefined design requirements and design propositions.

Table 12

Refined Design Requirements and Design Propositions

Refined Design Requirements	Refined Design Propositions
RDR1: Take a lack of time between supervisors and students into account.	RDP1: Design and construct a framework to organize and optimize available time, allowing supervisors to engage in co-regulating students in SRL, so students take the role of the reflective practice professional.
RDR2: The learning solution requires social interaction between students and supervisors.	
RDR3: Make use of already existing learning interventions regarding concepts of SRL, including asking for/giving feedback.	RDP2: Design and construct tools for supervisors to equip them with the necessary skills for guiding students in goalsetting, feedback and reflection, making use of already existing learning interventions.
RDR4: Take a lack of staff into account.	RDP3: The design ensures that the structured time requires the presence of only one supervisor or an experienced colleague to supervise a group of students.
RDR5: Motivate supervisors to guide students in their learning process.	RDP4: The design highlights the benefits for supervisors to support students in the role of the reflective practice professional.
RDR6: The learning solution should make supervisors aware of (training students in) the role of the reflective practice professional, support supervisors in guiding students in goalsetting, self-reflection, and giving constructive feedback.	RDP5: Recommend a training for supervisors to train students in the role of the reflective practice professional, including training in goalsetting, constructive feedback, and self-reflection.

Mapping Solutions: Skeleton Design

After refining the design requirements and propositions, McKenney and Reeves (2012) suggest to construct a skeleton design of the idea. For Idea 3: Structuring available time, I developed a blueprint consisting of three components (Table 13): 1) learning tasks, 2) supportive information, and 3) procedural information. This blueprint is based on the 4C/ID (i.e., four-components instructional design) model for complex learning, as proposed by Van Merriënboer et al. (2002). The 4C/ID model adopts a holistic approach to complex learning, emphasizing the acquisition of integrated knowledge, skills, and attitudes within an authentic context. This aligns with the question of the Design and Construction phase, which revolves around *supervisors know what is required for students to take the role of the reflective practice professional (i.e., knowledge), and put this into practice by co-regulating students in SRL in terms of guiding students and goalsetting and self-reflection, and promoting asking for/giving feedback during a daily stand-up and closing (i.e., skills)*. We see that this question also encompasses the integration of attitudes, such as being supportive towards students. In the following sections, I will explain the 4C/ID blueprint.

Skeleton Design: The 4C/ID Blueprint. The first component of the blueprint is learning tasks, which are organized into whole task classes. The aforementioned italicized question can be considered as a whole task that integrates various knowledge, skills, and attitudes. It is essential for the learners (i.e., students who learn to self-regulate their learning and supervisors who learn to co-regulate in students SRL) to learn this whole task in increasing complexity, which forms the different classes (i.e., from least complex to most complex). The learning tasks represent the instructional moments within the whole task classes, based on real-life tasks. Van Merriënboer and Kirschner (2018) advise to study these real-life tasks by a document analysis. Referring back to the document analysis of the Analysis and Exploration phase, I can identify real-life tasks corresponding to the whole task: a) supervisors link students' assignments and competencies to learning goals, b) supervisors stimulate reflection on the learning process of the students, and c) supervisors have the real-life task to regularly provide students with immediate feedback on their performance. When examining real-life task c, we observed

during the problem analysis of the Analysis and Exploration phase that supervisors may not always be able to fulfil this task due to a lack of time. Therefore, it is important for supervisors to encourage students to ask for/give feedback from/to other peers and colleagues. This promotes a culture of peer feedback and allows for effective feedback exchange even when direct supervisor involvement is limited. Thus, the learning tasks for supervisors in the blueprint are:

1. During the daily stand-up, supervisors link students' assignments and competencies to learning goals, so students are guided in goalsetting (i.e., SRL forethought phase);
2. During the daily closing, supervisors stimulate students to reflect on their learning process, so students are guided in self-reflection (i.e., SRL self-reflection phase);
3. During the daily stand-up and closing, supervisors promote asking for/giving feedback from/to peers and colleagues.

In the initial learning tasks, both students and supervisors will receive support through various means of assistance (i.e., directive instructional methods) and guidance (i.e., process-oriented instructions). As the learning tasks progress and the complexity of the whole task classes increases, the level of support provided to students and supervisors will gradually decrease, a process known as *fading* (Van Merriënboer & Kirschner, 2018).

The second component is supportive information. This information can be regarded as the theory necessary for supervisors and students to perform the whole task. The supportive information comprises two types of knowledge: domain knowledge (i.e., mental models for reasoning, decision-making, and problem-solving) and systematic approaches to problem-solving (i.e., cognitive strategies for approaching problems, such as heuristics). The third component is procedural information, which is linked to a specific learning task. Ideally, procedural information is provided just-in-time during task execution. This can take the form of step-by-step or how-to explanations in a manual. The fourth component is part-task practice. This involves practicing recurring task elements in an automated manner. Since the learning outcomes of goalsetting, self-reflection and asking for/giving feedback differ each time (i.e., non-automated manner), I excluded this component from my design.

Table 13

4C/ID Blueprint for Idea 3: Structuring Available Time

<p>Task Class 1: Supervisors co-regulate students in SRL during a daily stand-up and closing. During the daily stand-up, supervisors will lead group discussions what students want to learn or achieve that day (i.e., co-regulating students in SRL forethought phase), and promote feedback. During the daily closing, supervisors will lead a group discussion to self-reflect on learning goals and feedback (i.e., co-regulating students in SRL self-reflection phase).</p>	
<p>Supportive Information: <i>Manual including domain models (i.e., conceptual, structural, and causal models)</i></p> <ul style="list-style-type: none"> • Conceptual model of what is required for students to take the role of the reflective practice professional: being responsible for achieving formulated learning goals, asking for/giving feedback, and self-reflection. • Structural model of how to put the role of the reflective practice professional into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection, and promoting asking for/giving feedback during the daily stand-up and closing. • Causal model to support supervisors in interpreting processes, giving explanations, and making predictions. 	
<p>Learning Task 1.1 Daily stand-up The supervisor gives all students two minutes in silence to think about what they want to learn today.</p>	
<p>Learning Task 1.2 Daily stand-up After two minutes, the supervisor asks two students what they want to learn today. The supervisor leads five minutes of group discussion, where the supervisor and the group of students try to link the learning goals of the chosen two students to relevant assignments and competences.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion • Apprenticeship assignments, including competencies, books from School 1 and 2
<p>Learning Task 1.3 Daily stand-up The supervisor closes the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. The supervisors promotes to the group to ask for feedback today.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing
<p>Learning Task 1.4 Daily closing The supervisor gives all students two minutes in silence to self-reflect on what they have learned today, and on what feedback they have received.</p>	
<p>Learning Task 1.5 Daily closing After self-reflection in silence, the supervisors asks students to share/discuss their self-reflection. When there is no response, the supervisor chooses two other students to share their self-reflection with the group. The supervisor will lead five minutes of group discussion on the students' self-reflection.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion
<p>Learning Task 1.6 Daily closing</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing

<p>The supervisor closes the daily stand-up plenary by giving positive feedback towards the learning process of the students.</p>	
<p>Task Class 2: Supervisors co-regulate students in SRL during a daily stand-up and closing. Only this time, supervisors support students in writing down their learning goals during the daily stand-up (i.e., co-regulating students in the SRL forethought phase), and their self-reflection during the daily closing (i.e., co-regulating students in the SRL self-reflection phase).</p>	
<p>Supportive Information: <i>Manual including domain models (i.e., conceptual, structural, and causal models)</i></p> <ul style="list-style-type: none"> • Conceptual model of what is required for students to take the role of the reflective practice professional: being responsible for achieving formulated learning goals, asking for/giving feedback, and self-reflection. • Structural model of how to put the role of the reflective practice professional into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection, and promoting asking for/giving feedback during the daily stand-up and closing. • Causal model to support supervisors in interpreting processes, giving explanation, and making predictions. 	
<p>Learning Task 2.1 <i>Daily stand-up</i> The supervisor asks all students to write down individually what they want to learn today. Students have got five minutes to write down their answers individually.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of a worked-out SMART example
<p>Learning Task 2.2 <i>Daily stand-up</i> After five minutes, the supervisor asks two students what they want to learn today. The supervisor leads five minutes of group discussion, where the supervisor and the group of students try to link the learning goals of the chosen two students to relevant assignments and competences.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion • Apprenticeship assignments, including competencies, books from School 1 and 2
<p>Learning Task 2.3 <i>Daily stand-up</i> The supervisor closes the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. The supervisors promotes to the group to ask for feedback today.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing
<p>Learning Task 2.4 <i>Daily closing</i> The supervisor gives all students five minutes in silence to write down and self-reflect on what they have learned today, and to self-reflect on what feedback they have received.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of the STARRT form
<p>Learning Task 2.5 <i>Daily closing</i> After self-reflection in silence, the supervisors asks students to share/discuss their self-reflection. When there is no response, the supervisor chooses two other students to share their self-reflection with the group. The supervisor will lead five minutes of group discussion on the students' self-reflection.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion
<p>Learning Task 2.6 <i>Daily closing</i></p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing

<p>The supervisor closes the daily stand-up plenary by giving positive feedback towards the learning process of the students.</p>	
<p>Task Class 3: Supervisors co-regulate students in SRL during a daily stand-up and closing. Only this time, supervisors support students in writing down SMART learning goals during the daily stand-up (i.e., co-regulating students in the SRL forethought phase), and to self-reflect according to the STARRT method (i.e., co-regulating students in the SRL self-reflection phase).</p>	
<p>Supportive Information: <i>Manual including domain models (i.e., conceptual, structural, and causal models)</i></p> <ul style="list-style-type: none"> • Conceptual model of what is required for students to take the role of the reflective practice professional: being responsible for achieving formulated learning goals, asking for/giving feedback, and self-reflection. • Structural model of how to put the role of the reflective practice professional into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection, and promoting asking for/giving feedback during the daily stand-up and closing. • Causal model to support supervisors in interpreting processes, giving, and making predictions. 	
<p>Learning Task 3.1 <i>Daily stand-up</i> The supervisor asks all students to write down individually their SMART goal of the day. Students have got five minutes to write down their SMART goal.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • SMART worksheet
<p>Learning Task 3.2 After writing down the SMART goals, the supervisor chooses two students to share their SMART goals. There is room for five minutes of group discussion.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion • Apprenticeship assignments, including competencies, books from School 1 and 2
<p>Learning Task 3.3 The supervisor closes the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. The supervisors promotes to the group to ask for feedback today.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing
<p>Learning Task 3.4 <i>Daily closing</i> The supervisor asks all students to write down their self-reflection, using the STARRT method, in silence for five minutes.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • STARRT form
<p>Learning Task 3.5 <i>Daily closing</i> After self-reflection in silence, the supervisors asks students to share/discuss their self-reflection. When there is no response, the supervisor chooses two other students to share their self-reflection with the group. The supervisor will lead five minutes of group discussion on the students' self-reflection.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of questions to ask in the group discussion
<p>Learning Task 3.6 <i>Daily closing</i> The supervisor closes the daily stand-up plenary by giving positive feedback towards the learning process of the students.</p>	<p>Procedural information</p> <ul style="list-style-type: none"> • Just-in-time information of how to facilitate a plenary closing

The 4C/ID Blueprint: Task Class 1. In this least complex task class, I considered Refined design requirement 2: The learning solution requires social interaction between students and supervisors. Hence, this task class involves supervisors co-regulating students in SRL during the daily stand-up and closing primarily through social interaction. I am going to design a **manual** as supportive information, functioning as “theory” that allows the supervisors to perform the whole task class (i.e., Refined design proposition 2: Design and construct tools for supervisors). The manual will include: a) conceptual information of students in the role of the reflective practice professional, b) structural step-by-step information on how supervisors can put this into practice during the daily stand-up and closing, and c) causal information for each step, enabling supervisors to interpret, understand, or predict potential steps in practice. The further specific design of this manual will be explained during the detailed design specifications later in this thesis. the daily stand-up, the supervisor will facilitate group discussions to determine what students want to learn or achieve that day (i.e., SRL forethought phase) and encourage the exchange of feedback (as described in Table 13: learning tasks 1.1, 1.2, 1.3). During the daily closing, the supervisor will lead a group discussion to reflect on learning goals (i.e., SRL self-reflection phase) and feedback (i.e., reflection-on-action), as described in Table 13: learning tasks 1.4., 1.5., 1.6. During these learning tasks, I will refer to just-in-time information that the supervisors and students need to perform the learning tasks.

The 4C/ID Blueprint: Task Class 2. In this more complex task class, supervisors continue to co-regulate students in SRL during the daily stand-up and closing. However, in this task class, the supervisor asks students to write down their learning goals (i.e., SRL forethought phase) and self-reflection (i.e., SRL self-reflection) during the daily stand-up and closing. Despite the findings from the problem analysis in the Analysis and Exploration phase, which revealed that students do not favour documenting processes in the role of the reflective practice professional, it is deemed necessary. Documentation of these processes is a requirement to meet S-BB’s requirements. In addition to the supportive information provided to supervisors to enable them to co-regulate students in SRL, students now receive just-in-time procedural information as well. For instance, in learning task 2.1, students are supported with a worked-

out SMART goal example (i.e., Refined design requirement 3: Make use of already existing learning interventions).

The 4C/ID Blueprint: Task Class 3. In the most complex task class, students progressively learn to self-regulate with reduced co-regulation from supervisors. Supervisors guide students in writing a SMART goal during the daily stand-up (i.e., learning task 3.1) and facilitate self-reflection using the STARRT method during the daily closing (i.e., learning task 3.4). These interventions, SMART goals and the STARRT method, were identified during the document analysis conducted in the Analysis and Exploration phase and are being implemented as part of the refined design requirement 3 (i.e., making use of already existing learning interventions). Fulfilling S-BB's requirements involves students effectively formulating SMART goals and engaging in STARRT reflection. Additionally, group discussions between students and the supervisor (i.e., learning tasks 3.2 and 3.5) allow for social interaction and the exchange of documented answers, aligning with the design requirements of retaining existing learning interventions (i.e., RDR3) and incorporating social interaction (i.e., RDR2). To support supervisors in guiding students through these tasks, the manual will include supplementary information. Procedural information in the form of worksheets will be provided to support students in writing SMART goals and conducting STARRT reflection. These worksheets will be further developed in the detailed design specifications and serve as tools for both students and supervisors, guiding them in the SMART and STARRT process.

Mapping Solutions: Detailed Design Specifications

In the following sections, I will provide detailed design specifications for each task class based on the data from Table 13, the 4C/ID blueprint. For each whole task class, I will first give an introduction of the task class. Then I will provide the supportive information corresponding to the whole task class. Subsequently, I describe the learning tasks, incorporated with the procedural information.

Task Class 1: Introduction. All learning tasks within the task classes are conducted during two specific time slots: the daily stand-up session from 8:00 to 8:15 and the daily closing session from 15:30 to 15:45. This time structure ensures focused and intentional CoRL and SRL

practices within these designated periods. The learning moments of the daily stand-up and closing follow the same structure: five minutes of individual thinking (i.e., learning task 1.1 and 1.4), five minutes of group discussion (i.e., learning task 1.2 and 1.5), and five minutes of a plenary closing (i.e., learning task 1.3 and 1.6). During the daily stand-up, supervisors act as co-regulators, facilitating group discussions to explore students' learning goals and aspirations for the day. This process involves co-regulating students in the SRL forethought phase and promoting feedback exchange among the group. In the subsequent daily closing, supervisors once again serve as co-regulators, leading a group discussion focused on SRL self-reflection phase regarding learning goals and received feedback.

Task Class 1: Supportive Information. To support supervisors with information to perform the whole task, I am going to design a **prototype of a manual**, including a conceptual, structural and causal model.

Supportive Information: Conceptual Model. A conceptual model outlines key concepts that the supervisor should understand to perform the whole task (Van Merriënboer & Kirschner, 2018): Supporting students in being responsible for achieving formulated learning goals, asking for/giving feedback, and self-reflection, so they take the role of the reflective practice professional. Not only should these concepts be explained, but it is also crucial to motivate why it is important for supervisors to guide students in taking the role of the reflective practice professional. This aligns with the Refined design requirement and proposition 4: The design highlights the benefits for supervisors to support students in the role of the reflective practice professional. Hence, I designed the conceptual model that will be included in the intended manual, as depicted in Table 14.

Table 14

Conceptual Model in the Intended Manual

Concept	Explanation	Role of the supervisor
Being responsible for achieving formulated learning goals	This concept highlights the importance of students taking ownership of their learning process and actively working towards their formulated learning goals. By setting specific and challenging goals, such as SMART (i.e.,	Supervisors should guide students in formulating SMART goals for improved learning outcomes. Guiding students in goalsetting allows supervisors to have a better understanding of their students'

	specific, measurable, attainable, relevant and time-bound) formulated goals, students become more motivated and engaged in their learning process, leading to improved learning outcomes (Locke & Latham, 1990).	aspirations, motivations, and areas of interest. This insight enables supervisors to tailor their support, resources, and opportunities to help students pursue meaningful and relevant goals. It also helps supervisors foster a more personalised and individualised approach to supervision.
Asking for/giving feedback to others	Feedback is information provided to the students that helps them understand their performance, make improvements, and achieve desired outcomes. Feedback is the most effective when feedback is given on specific learning goals, right after the performance (Hattie & Timperley, 2007).	When supervisors give feedback on the performance of the students, based on learning goals, they gain insight into students' progress, identify areas of improvement, and enhance their own supervising skills through the feedback process. When supervisors do not have time to provide immediate feedback on performance, supervisors should promote that students ask for/give feedback to peers and colleagues. In this way, a feedback culture can be improved, and communication and collaboration within the team can be enhanced.
Self-reflecting on actions and functioning	Students learn by self-reflection by thinking about what they have learned during or after an action, and transferring this new knowledge to another situation (Schön, 1983).	Supervisors play a crucial role in guiding students through the process of writing a self-reflection using the STARRT method (i.e., Situation, Task, Action, Result, Reflection, Transfer). This method serves as a structured framework for students to reflect on their learning experiences and outcomes. Employing the STARRT method, supervisors help students develop a comprehensive and reflective analysis of their learning experiences. When students self-reflect, supervisors might gain valuable insights into the strengths, challenges, and learning needs of their students. This understanding allows supervisors to provide targeted guidance.

Supportive Information: Structural Model. The structural model describes how supervisors can put the key concepts in practice by co-regulating students in SRL during the daily stand-up and closing, so students take the role of the reflective practice professional. Hence, I designed a structural model to perform Task class 1 that is going to be include in the manual (see: tasks in Table 15). This structural model corresponds with the Refined design

proposition 1: Designing and constructing a framework to organize and optimize available time, allowing supervisors to engage in co-regulating students in SRL, so students take the role of the reflective practice professional. The structural model follows a step-by-step approach, progressing in a chronological order tied to time. This allows supervisors to clearly see at what time they can facilitate each task. For example, a daily stand-up where a supervisor co-regulates students in the SRL forethought phase, consists of five minutes of individual thinking (i.e., learning task 1.1), followed by a group discussion (i.e., learning task 1.2), and concludes with a plenary closing (i.e., learning task 1.3). The daily closing, where the supervisor co-regulates students in the SRL self-reflection phase, follows the same structure, corresponding to learning tasks 1.4, 1.5, and 1.6. As you can see in Table 15, some tasks refer to tables. These tables contain the procedural information related to each specific task. I will provide a detailed description of these tables in later sections.

Supportive Information: Causal Model. To support supervisors in interpreting the processes, giving explanation, and making predictions, I have incorporated a causal model into the structural model. This can be observed in Table 15, labelled as "What to do if...". The causal model outlines specific actions or steps to be taken in response to various scenarios or circumstances. For instance, the problem analysis conducted during the Analysis and Exploration phase revealed that not all students feel comfortable sharing their learning process due to feelings of guilt and fear of being judged. When students do not want to share their learning goals with the group, I advise the supervisors to create an environment where students feel comfortable sharing by assuring that their goals will be respected and that sharing can lead to valuable insights and support from their peers.

Table 15

Structural and Causal Model of Task Class 1 in the Intended Manual

<p>What? A daily stand-up to guide students in the role of the reflective practice professional: setting goals and being responsible for achieving them . When? Every start of the working shift, from 8:00 – 8:15. Who? One supervisor with six students. Where? In a meeting room of the eldercare centre.</p>		
Timing	Tasks	What to do if...
8:00 – 8:05 <i>Individual thinking</i>	1.1. Welcome all students to the daily stand-up, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Give students two minutes in silence to think about what they want to learn today. After two minutes, ask whether two students want to share their learning goal with the group or choose two students.	<ul style="list-style-type: none"> • <i>students do not feel comfortable with staying silent during the two minutes of individual thinking.</i> → Acknowledge and respect their discomfort by providing alternative options. For example, suggest that students write down their thoughts on a piece of paper or engage in a brief discussion with a partner. • <i>students show resistance in thinking about learning goals.</i> → Emphasize the importance of setting goals for personal growth and development. Explain the benefits of having clear learning goals and how it can enhance their learning experience. Additionally, provide examples or prompts to help stimulate their thinking and inspire goalsetting. • <i>students do not want to share their learning goals with the group.</i> → Create a safe and non-judgmental environment where students feel comfortable sharing. They can assure students that their goals will be respected and that sharing can lead to valuable insights and support from their peers. However, if students still choose not to share, it is important to respect their decision and not force them to do so. The supervisor can emphasize that sharing is optional and that the focus is on individual growth and progress.
8:00 – 8:10 <i>Group discussion</i>	1.2. Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.	<ul style="list-style-type: none"> • <i>you do not know what kind of questions you should ask during a group discussion.</i> → See: Table 16. • <i>you do not know which assignments and competences are relevant for students.</i>

		<ul style="list-style-type: none"> ➔ You are always allowed to keep the relevant apprenticeship assignment book including competencies with you. Acknowledge your own limitations and express openness to learning together with the students. Encourage the students to share their understanding of relevant assignments and competences, creating a collaborative learning environment. For example, ask: “Can anyone share their ideas on relevant assignments and competences for these goals?” • the group of students does not engage in the group discussion. ➔ Offer prompts or examples to help kickstart the discussion (Table 16). Share potential assignments or competences and ask students for their opinions or suggestions. This can serve as a starting point for students to build upon and generate their own ideas. If the whole group discussion is not productive, you can divide the students into smaller groups to foster more active participation. This allows for more focused discussions and gives each student a chance to contribute.
8:10 – 8:15 <i>Plenary closing</i>	1.3. Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.	<ul style="list-style-type: none"> • you do not know how to close a stand-up plenary, and to promote feedback. ➔ See: Table 17.
<p>What? A daily closing to guide students in the role of the reflective practice professional: self-reflecting on own actions and functioning.</p> <p>When? Every start of the working shift, from 15:30 – 15:45.</p> <p>Who? One supervisor with six students.</p> <p>Where? In a meeting room of the eldercare centre.</p>		
15:30 – 15:35 <i>Individual thinking</i>	1.4. Welcome all students to the daily closing, and remind them of their role as reflective practice professionals: we reflect on own actions and functioning. Give students two minutes in silence to self-reflect on what they have learned, and on	<ul style="list-style-type: none"> • students do not feel comfortable with staying silent during the two minutes of individual thinking. ➔ Acknowledge and respect their discomfort by providing alternative options. For example, suggest that students write down their thoughts on a piece of paper or engage in a brief discussion with a partner. • students show resistance in thinking about self-reflection

	the feedback they have received. After two minutes, ask two students to share/discuss their self-reflection with the group.	<ul style="list-style-type: none"> ➔ Emphasize the importance of self-reflection for personal growth and development. Explain the benefits of self-reflection and how it can enhance their learning experience. Additionally, provide examples or prompts to help stimulate their thinking and inspire self-reflection. • <i>students do not want to share their self-reflection with the group.</i> ➔ Create a safe and non-judgmental environment where students feel comfortable sharing. They can assure students that their self-reflection will be respected and that sharing can lead to valuable insights and support from their peers. However, if students still choose not to share, it is important to respect their decision and not force them to do so. The supervisor can emphasize that sharing is optional and that the focus is on individual growth and progress.
15:35 – 15:40 <i>Group discussion</i>	1.5. Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.	<ul style="list-style-type: none"> • <i>you do not know what kind of questions you should ask during a group discussion.</i> ➔ See: Table 18. • <i>the group of students does not engage in the group discussion.</i> ➔ Offer prompts or examples from the STARRT form to help kickstart the discussion (see: Table 18). If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide prompts and facilitates the conversation more actively.
15:40 – 15:45 <i>Plenary closing</i>	1.6. Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.	<ul style="list-style-type: none"> • <i>you do not know how to close the daily closing plenary, and to give positive feedback towards the learning process of the students.</i> ➔ See: Table 19.

Task Class 1: Learning Tasks and Procedural Information. In the aforementioned structural model, the learning tasks have already been identified. In Table 15, under the heading "tasks" you can also have an overview of all the integrated learning tasks as specified in the 4C/ID blueprint. In the following sections, I will only mention the learning tasks that are associated with procedural information. Additionally, I will explain the procedural information that will be included in the design of the prototype manual.

Learning Task 1.2: Procedural Information. In this learning task, supervisors will facilitate five minutes of group discussion, trying to link the learning goals of the two students to relevant assignments and competences (i.e., co-regulating students in the SRL forethought phase). Discussion, being the most common form of face-to-face teaching, allows for the exchange of facts, ideas, and opinions (Morrison et al., 2013). Within this format, students and the supervisor can engage in cooperative problem-solving, questioning, and reporting. To support supervisors in posing questions to stimulate the group discussion in the SRL forethought phase, the supervisor will receive just-in-time procedural information in the form of prompting questions that the supervisor could ask to the students (Table 16). The information of the table will be displayed just-in-time in the manual, corresponding to performing the learning task. Furthermore, when supervisors are not aware of relevant assignments and competences, supervisors can make use of the apprenticeship assignment books of School 1 and 2 to maintain an overview of the potential assignments and competencies. This information will also be referred to in the manual.

Table 16

Just-in-Time Procedural Information: Prompting Questions to Lead Group Discussion during Daily Stand-Up

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1. How do the learning goals of these two students relate to the assignments and competences you are now working on?
 2. What are specific tasks or activities in the assignments that can help these students to achieve their learning goals?
 3. Which skills or knowledge areas in the competences connect to the students' learning goals?
 4. How can these students use the assignments to improve the competences they are targeting?
 5. What extra resources or support do these student need to succeed in their learning goals within the assignments and competences?
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6. What challenges might these students face, and how can we address them?
 7. What strategies can these students use to maximize their learning and progress in the assignments and competences?
 8. What are the opportunities for collaboration or learning from peers that can benefit these students?
 9. How can the supervisor or colleagues guide and support these students as they work on their learning goals in the assignments and competences?
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Learning Task 1.3: Procedural Information. In this learning task, supervisors close the daily stand-up plenary. I found a plenary closing important, since it allows for a summary and consolidation of the main points discussed during the daily stand-up. It helps to bring together the various ideas, perspectives, and insights shared by the supervisor and students. To support supervisors in conducting the plenary closing of the daily stand-up, they will receive just-in-time procedural information in the form of a step-by-step guide on how to facilitate a plenary closing (Table 17) in the manual. The guide starts and ends with promoting a safe learning environment by expressing appreciation and concluding with encouragement. By incorporating this approach, I aim to provide a solution to address the problem identified during the problem analysis in the Analysis and Exploration phase, where students expressed discomfort, guilt, or feeling judged when discussing their learning process. By summarizing the learning goals (i.e., step 2), recapping beneficial strategies (i.e., step 3), and addressing the challenges (i.e., step 4), the supervisor helps to solidify understanding and facilitate retention of the learning content. Step 5 focuses on promoting a safe feedback culture. The supervisor is encouraged to prompt students to seek and provide feedback to their peers and colleagues. This aligns with the real-life task mentioned earlier, where supervisors should promote asking for/giving feedback.

Table 17

Just-in-Time Procedural Information: Step-by-Step Guide of Plenary Closing Daily Stand-up

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1. **Begin by expressing appreciation**
Begin by expressing appreciation for the students' participation and willingness to share their learning goals with the group.
 2. **Summarize the learning goals**
Summarize the main learning goals that were discussed during the group discussion, emphasizing their relevance to the assignments and competencies.
-

3. **Recap beneficial strategies**

Recap any specific tasks, activities, or strategies that were identified as beneficial for achieving the learning goals within the given context.

4. **Address challenges**

Address any challenges or obstacles that were raised during the discussion, and briefly discuss possible solutions or approaches to overcome them.

5. **Promote feedback**

Remind students of support and guidance available from the supervisor, their peers and colleagues by encourage students to seek feedback from their supervisor, peers and colleagues as they work towards their learning goals.

6. **Conclude with encouragement**

Conclude the plenary closing by encouraging students to keep their learning goals in mind as they continue their day, while expressing confidence in the students' ability to make progress towards their learning goals.

Learning Task 1.5: Procedural Information. In this learning task, supervisors again facilitate five minutes of group discussion to co-regulate students in the SRL self-reflection phase. In this group discussion, supervisors and students discuss the self-reflection of the two students. To facilitate the group discussion, supervisors are provided with just-in-time procedural information: the STARRT form (Table 18) to support them in co-regulating students in the SRL self-reflection phase. The STARRT form is an established intervention from the apprenticeship book from School 2 that will be utilized to offer prompts and examples to help kickstart the discussion. The STARRT prompting questions will be displayed just-in-time in the manual, corresponding to performing the learning task.

Table 18

Just-in-Time Procedural Information: STARRT Prompting Questions to Lead Group Discussion during Daily Closing

Situation	Ask students to describe a caregiving situation in which they learned something.
Task	Let students describe what they wanted to achieve in the situation (goal) and provide an explanation of their action plan.
Action	Prompt students to justify their actions in the professional situation by asking the following questions: <ul style="list-style-type: none">• How did you carry out the activities?• What priorities did you set?• What knowledge and skills did you apply?• What attitude did you display?

Result	Let students describe the concrete outcomes by asking the following questions: <ul style="list-style-type: none"> • What was the ultimate result of your actions? • How did the care recipient/family members react to the result? • How did your peers/supervisor/colleagues respond to the result? • What did you report about these activities?
Reflection	Ask students what went well already, and what can be improved. Are they (un)satisfied with their results? What would they do differently the next time?
Transfer	Ask students to discuss how they can apply the activities in similar and more complex situations.

Learning Task 1.6: Procedural Information. In this learning task, supervisors close the daily closing plenary, just as in learning task 1.3. During the plenary closing, students can seek clarification on any uncertainties or questions they may have regarding the learning content or tasks. Besides, I think that the plenary closing can be used as a platform to motivate and inspire other students by highlighting achievements, progress, and areas for further development. To support supervisors in conducting the plenary closing of the daily closing, they will receive just-in-time procedural information in the form of a step-by-step guide on how to facilitate a plenary closing in the manual (Table 19). The guide starts and ends again with promoting a safe learning environment by expressing appreciation and concluding with encouragement. By summarizing the self-reflection (i.e., step 2), the supervisor again helps to solidify understanding and facilitates retention of the learning content. By highlighting commonalities and differences (i.e., step 3), recognizing notable contributions (i.e., step 4), and reflecting on the overall learning process, the supervisor involves the whole group of students in the learning process. The information of the table will be included as attachment of the manual, and referred to in the causal model of the manual.

Table 19

Just-in-Time Procedural Information: Step-by-Step Guide of Plenary Closing of Daily Stand-up

1. Begin by expressing appreciation

Start by expressing appreciation for the students' participation and willingness to engage in self-reflection. This sets a positive tone and reinforces the value of their contributions.

2. **Summarize the self-reflection**

Summarize the key points and themes that emerged during the group discussion. This recap ensures that everyone is on the same page and helps to reinforce the takeaways from the individual reflections.

3. **Highlight commonalities and differences**

Highlight commonalities and differences among the self-reflections shared by the students. This helps to create a sense of connection and allows students to see that they are not alone in their experiences and challenges.

4. **Recognize notable contributions**

Acknowledge and recognize notable contributions made by students during the group discussion. This can include insightful observations, valuable perspectives, or helpful suggestions that emerged from the conversation.

5. **Reflect on the overall learning process**

Guide a brief reflection on the overall learning process, emphasizing the growth and development that occurred through self-reflection and group interaction. This reflection encourages students to recognize their progress and the value of sharing and discussing their experiences.

6. **Conclude with encouragement**

Conclude the plenary closing by encouraging students to continue to grow in the role of the reflective practice professional and apply the insights gained from self-reflection and group discussion.

Task Class 2: Introduction. Within the second task class, supervisors continue their involvement in co-regulating students in SRL during the daily stand-up and closing. However, the complexity of their role increases as they are tasked with guiding students in documenting their answers in both the SRL forethought phase and the SRL self-reflection phase. This is more complex because students indicated in the problem analysis that they face difficulties in documenting their learning processes. During the daily stand-up, supervisors assume the responsibility of co-regulating students in the SRL forethought phase. Supervisors guide students in the process of formulating their learning goals. Likewise, during the daily closing, supervisors engage in co-regulating students in the SRL self-reflection phase. Here, supervisors guide students in the process of writing down their reflection on their learning experiences and feedback. Students are encouraged to express their learning goals and self-reflections freely, allowing them to delve into their thoughts and insights about their learning process.

Task Class 2: Supportive Information. The conceptual model in the manual as used in Task Class 1 is the same for Task Class 2. The structural and causal model for Task Class 2 will follow a similar format and structure as Task Class 1. This will ensure consistency and coherence throughout the manual, allowing for ease of use and understanding for supervisors.

Task Class 2: Supportive Information: Structural Model. I designed a structural model to perform Task class 2 that is going to be include in the manual (see: tasks in Table 20). Again, the structural model follows a step-by-step approach linked to the learning tasks, progressing in a chronological order tied to time. The same structure of individual thinking, group discussion, and plenary closing has been incorporated once again to maintain consistency in the design. This familiar and structured approach allows for a seamless transition between Task Class 1 and Task Class 2, enabling the supervisor to guide students effectively through the learning process.

Supportive Information: Causal Model in Manual. To provide guidance to supervisors in interpreting processes, giving explanations, and making predictions for Task Class 2 as well, a causal model has been integrated into the structural model. This can be observed in Table 20, specifically labelled as "What to do if...". With the exception of tasks 2.1 and 2.4, the causal model remains the same. For tasks 2.1 and 2.4, students are now expected to write down their answers on paper, introducing a slight modification to the process. This inclusion of a causal model ensures that supervisors have a comprehensive understanding of the underlying dynamics and can effectively support students throughout Task Class 2. For example, students only take thirty seconds to write down an unspecific goal. Then the supervisor should encourage the student to take a little more time to reflect on their learning goal, emphasizing the importance of setting specific and meaningful goals.

Table 20

Structural and Causal Model of Task Class 2 in the Intended Manual

<p>What? A daily stand-up to guide students in the role of the reflective practice professional: setting goals and being responsible for achieving them . When? Every start of the working shift, from 8:00 – 8:15, after three weeks of trial of Task Class 1 Who? One supervisor with six students. Where? In a meeting room of the eldercare centre.</p>	
Tasks	What to do if...
<p>2.1. Welcome all students to the daily stand-up, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask all students to write down individually what they want to learn today. Students have got five minutes or less to write down their learning goal in free expression. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.</p>	<ul style="list-style-type: none"> • students only take a few seconds to write down an unspecific goal. → Encourage the students to take a little more time to reflect on their learning goal. Emphasize the importance of setting specific and meaningful goals that can guide their learning process. Provide examples or prompts (see: Table 21) to help students clarify their goals. • students struggle and do not write down a learning goal. → Offer guidance and support by providing prompts (see: Table 21) or questions to stimulate their thinking. Break down the task into smaller steps, such as identifying relevant competencies and assignments. Encourage students to think about their personal motivations and aspirations.
<p>2.2. Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.</p>	<p>Same as in 1.2.</p>
<p>2.3. Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two</p>	<p>Same as in 1.3.</p>

<p>chosen students. Promote students to ask for and give feedback today.</p>	
<p>What? A daily closing to guide students in the role of the reflective practice professional: self-reflecting on own actions and functioning. When? Every start of the working shift, from 15:30 – 15:45, after three weeks of trial of Task Class 1. Who? One supervisor with six students. Where? In a meeting room of the eldercare centre.</p>	
<p>2.4. Welcome all students to the daily closing, and remind them of their role as reflective practice professionals: we reflect on own actions and functioning. Give students five minutes or less, in silence, to self-reflect and write down in free expression what they have learned, and what feedback they have received today. After two minutes, ask two students to share/discuss their self-reflection with the group.</p>	<ul style="list-style-type: none"> • students only take a couple of seconds to write down their self-reflection superficially (for example: logging activities instead of self-reflection). ➔ Encourage a deeper level of reflection. Show students the STARRT form questions (see: Table 22) or ask students to elaborate further on their insights and feedback received. This will help students delve into a more meaningful and thoughtful analysis of their learning experiences. • students appear to be staring blanky or confused. ➔ Provide just-in-time the STARRT form (see: Table 22) to guide students in self-reflection. Suggest key points to consider or offer examples to stimulate their thinking and facilitate the writing process.
<p>2.5. Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.</p>	<ul style="list-style-type: none"> • the group of students does not engage in the group discussion. ➔ Offer prompts or examples from the STARRT form to help kickstart the discussion (see: Table 22). If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide prompts and facilitates the conversation more actively.
<p>2.6. Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.</p>	<p>Same as 1.6.</p>

Task Class 2: Learning Tasks and Procedural Information. In addition to the same procedural information provided in Task Class 1, new procedural information has been added for learning tasks 2.1 and 2.4.

Learning Task 2.1: Procedural Information. In this learning task, the supervisor instructs all students to individually write down what they want to learn today, allowing for free expression. Students are given approximately five minutes to write down their learning goal in their own words and personal style. After the writing time, students are invited to share their learning goal with the group, providing an opportunity for open discussion and co-regulation in the SRL forethought phase. This approach encourages students to articulate their aspirations and engage in active dialogue with their peers (Morrison et al., 2013). When supervisors notice that students struggle with writing down a learning goal in free expression, the supervisor will provide just-in-time procedural information: the worked-out SMART example (Table 21).

Table 21

Just-in-Time Procedural Information: Worked-Out SMART Example

Specific: What exactly do you want to achieve?

I want to ask for feedback from colleagues.

Measurable: How will you know when you achieved your goal?

When I asked at least one colleague for feedback.

Attainable: Is the goal genuinely possible to achieve?

Yes, I do have sufficient time and colleagues around.

Relevant: Does the learning goal contribute to your personal and professional growth?

Yes, I grow in the role of the reflective practice professional.

Time-bound: When do you want to achieve this goal?

Today because it is a daily goal.

Example for SMART formulated goal:

Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

Learning Task 2.1: Procedural Information. In this learning task, the supervisor instructs all students to individually write down their self-reflection regarding what they have learned,

specifically in relation to their set goals and feedback (i.e., co-regulating students in the SRL self-reflection phase). Students are given approximately five minutes to freely express their thoughts and insights through written reflection. During this time, students are encouraged to reflect on their progress, achievements, challenges, and any valuable feedback they have received. When supervisors notice that students struggle with writing down self-reflection in free expression, the supervisor will provide just-in-time procedural information to co-regulate students in the SRL self-reflection phase. This information is the STARRT form for students, including prompting questions that students can use to write down their answer (Table 22).

Table 22

Just-in-Time Procedural Information: STARRT Form for Students

Situation	In what situation did you learn today?
Task	What and how did you want to achieve today?
Action	<ul style="list-style-type: none"> • How did you carry out the activities? • What priorities did you set? • What knowledge and skills did you apply? • What attitude did you display?
Result	<p>What were the concrete outcomes?</p> <ul style="list-style-type: none"> • What was the ultimate result of your actions? • How did the care recipient/family members react to the result? • How did your peers/supervisor/colleagues respond to the result? • What did you report about these activities?
Transfer	How are you going to apply the activities in similar and more complex situations?

Task Class 3: Introduction. In the third task class, supervisors continue to engage in co-regulation students in SRL during the daily stand-up and closing, further advancing the level of complexity. During the daily stand-up, supervisors assume the role of co-regulators in the SRL forethought phase, providing guidance to students as they formulate SMART learning goals. In the daily closing, supervisors once again act as co-regulators, this time focusing on SRL self-reflection phase. Here, supervisors play a crucial role in guiding students through the process of writing a self-reflection using the STARRT method.

Task Class 3: Supportive Information. The conceptual model employed in Task Class 1 and Task Class 2 within the manual remains consistent in Task Class 3. The structural and causal

model devised for Task Class 3 will adhere to a similar format and structure, ensuring coherence and uniformity across the manual. This approach aims to facilitate ease of use and comprehension for supervisors, promoting a seamless transition between different task classes.

Supportive Information: Structural Model. I designed a structural model for implementing Task Class 3, which will be included in the manual and outlined in Table 23. Similar to Task Class 1 and 2, this model follows a sequential and time-bound approach, with activities organized in a step-by-step manner. The consistent structure of individual thinking, group discussion, and plenary closing has been retained, ensuring coherence and continuity throughout the design.

Supportive Information: Causal Model. To support supervisors in interpreting processes, providing explanations, and making predictions for Task Class 3, I designed a causal model that is integrated into the structural model, as depicted in Table 23. This structural model, identified as "What to do if..." in the table, outlines the recommended actions for various scenarios. While the majority of the causal model remains consistent across tasks, there are specific modifications for tasks 3.1 and 3.4. For task 3.1, students are now expected to formulate a SMART goal using a worksheet, while for task 3.4, they are required to write down a self-reflection following a simplified STARRT worksheet. By incorporating a causal model, supervisors gain a comprehensive understanding of the underlying dynamics and can effectively support students throughout Task Class 3 (Van Merriënboer & Kirschner, 2018). For instance, when students encounter challenges in completing the worksheet due to time constraints, I advise supervisors to be flexible. They can allow students to submit unfinished worksheets or provide a condensed version of the worksheet, prioritizing meaningful self-reflection over strict adherence to time or format.

Table 23

Structural and Causal Model of Task Class 3 in the Intended Manual

<p>What? A daily stand-up to guide students in the role of the reflective practice professional: setting goals and being responsible for achieving them . When? Every start of the working shift, from 8:00 – 8:15, after three weeks of trial of Task Class 2. Who? One supervisor with six students. Where? In a meeting room of the eldercare centre.</p>		
Timing	Tasks	What to do if...
8:00 – 8:05 <i>Individual thinking</i>	3.1. Welcome all students to the daily stand-up, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask all students to write down individually their SMART goal of the day, using the Writing a SMART goal worksheet (see: Table 24) . Students write down their learning goal in five minutes or less. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.	<ul style="list-style-type: none"> • students experience difficulties with the worksheet. → Provide additional explanations and examples to clarify the purpose of SMART goals and how to use if effectively. Offer guidance on each or a specific section of the worksheet. • students show resistance and do not complete the worksheet. → Encourage students to at least write down their learning goal in any format they feel comfortable with. Emphasize the importance of setting goals for personal growth and development. Explain the benefits of having clear learning goals and how it can enhance their learning experience. Additionally, provide examples or prompts to help stimulate their thinking and inspire goalsetting. • students feel pressed for time to complete the worksheet. → Offer flexibility by providing a shorter version or simplified template that allows them to write down their learning goal. The focus should be on capturing the essential SMART goal, even if it means a more concise format.
8:00 – 8:10 <i>Group discussion</i>	3.2. After writing down the SMART goals, facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.	Same as in 1.2.
8:10 – 8:15 <i>Plenary closing</i>	3.3. Close the daily stand-up plenary by repeating the SMART formulated learning goals of the two students, and giving positive feedback towards the learning	Same as in 1.3.

	process of the two chosen students. Promote students to ask for and give feedback today.	
<p>What? A daily closing to guide students in the role of the reflective practice professional: self-reflecting on own actions and functioning.</p> <p>When? Every start of the working shift, from 15:30 – 15:45, after three weeks of trial of Task Class 2.</p> <p>Who? One supervisor with six students.</p> <p>Where? In a meeting room of the eldercare centre.</p>		
15:30 – 15:35 <i>Individual thinking</i>	3.4. Welcome all students to the daily closing, and remind them of their role as reflective practice professionals: we reflect on own actions and functioning. Give students five minutes or less, in silence, to write down their self-reflection, using the Simplified version of the STARRT form (see: Table 25) . After five minutes or less, ask two students to share/discuss their self-reflection with the group.	<ul style="list-style-type: none"> • students do not understand the worksheet. ➔ Provide clear explanations and examples of the STARRT method. Offer step-by-step guidance on one or each section and clarify any confusing instructions or terminology. • students do not complete the worksheet. ➔ Encourage students to still engage in self-reflection by writing down their thoughts and observations in any format they find comfortable. Emphasize the importance of reflecting on their actions and functioning, even if they do not follow the specific worksheet structure. • students feel pressed for time to complete the worksheet. ➔ Be flexible and allow for a shorter reflection period or provide a condensed version of the worksheet. For example, let students only fill out the questions corresponding to Situation and Task. Explain that students can further discuss Action, Result, Reflection, and Transfer in the group discussion. The focus should be on encouraging students to engage in meaningful self-reflection, even if it means adapting the time or format to accommodate their needs.
15:35 – 15:40 <i>Group discussion</i>	3.5. Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.	Same as in 2.5.
15:40 – 15:45 <i>Plenary closing</i>	2.6. Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.	Same as in 1.6.

Task Class 3: Learning Tasks and Procedural Information. In addition to providing the same procedural information as in Task Classes 1 and 2, new procedural information has been introduced for learning tasks 3.1 and 3.4: SMART and STARRT worksheets. This procedural information does not only benefit students by providing them with practical tools, but they also serve as valuable references for supervisors. The worksheets offer supervisors concrete step-by-step guidance on how to formulate a learning goal and write down self-reflection, allowing them to guide students in these steps, so they can co-regulate students in SRL. This corresponds with the Refined design proposition 2: Design and construct tools for supervisors to equip them with the necessary skills for guiding students in goalsetting, feedback and reflection, making use of the already existing learning interventions.

Learning Task 3.1: Procedural Information. I have designed a SMART worksheet for learning task 3.1 to support students in formulating their learning goals and enhance their SRL in the forethought phase. To facilitate this task, supervisors will provide students with the procedural information just-in-time, acting as co-regulators in SRL. The SMART worksheet can be found in the upcoming manual. Table 24 illustrates the design process, starting with a reminder of the SMART acronym and presenting a worked-out example to clarify the concept. Students are then given a task to create their own SMART goal. Supervisors can employ the fading technique, adjusting the level of guidance based on individual student capabilities. For students who find the task too easy, supervisors can show only the worked-out example. This approach ensures differentiation and appropriate challenge for all students.

Table 24

Just-in-Time Procedural Information: SMART Worksheet

Specific: What exactly do you want to achieve?

Measurable: How will you know when you achieved your goal?

Attainable: Is the goal genuinely possible to achieve?

Relevant: Does the learning goal contribute to your personal and professional growth?

Time-bound: When do you want to achieve this goal?

Example for SMART formulated goal:

Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

Your SMART goal of the day:

Today, I am going to learn/achieve _____. I do this by _____ with the help of _____, so I develop in _____.

Learning Task 3.4: Procedural Information. In learning task 3.4, I designed a STARRT worksheet (Table 25) to support students in their SRL self-reflection process. Supervisors can find this form in the upcoming manual. It is recommended that supervisors provide this procedural information to students just-in-time to co-regulate students in the SRL self-reflection phase, specifically during the daily closing session when students engage in individual self-reflection. The STARRT worksheet follows the established STARRT method outlined in the apprenticeship book of School 2. I have simplified the method to ensure students can complete it within a five-minute timeframe. If students are running short on time, supervisors can prioritize considering the situation and task. During the group discussion, the remaining questions related to action, result, reflection, and transfer can be addressed collectively.

Table 25

Just-in-Time Procedural Information: STARRT Worksheet for Students

Situation	In what situation did you learn today? _____
Task	What learning goal did you want to achieve in that situation? _____
Action	Which actions did you ta to achieve your learning goal? _____
Result	What was the ultimate result of your actions? _____
Reflection	What did you learn from the situation and actions? _____
Transfer	How are you going to apply the activities in similar and more complex situations? _____ _____

Construction: A Prototype of the Manual to Guide Supervisors in Co-Regulating Students in SRL During a Daily Stand-Up and Closing

Sequentially following from the skeleton design and the detailed design specifications, I constructed a **prototype of the manual** to guide supervisors in co-regulating students in SRL during a daily stand-up and closing. The aim is to support supervisors in *knowing what is required for students to take the role of the reflective practice professional and effort to put this into practice by co-regulating students in SRL in terms of guiding students in goalsetting and self-reflection through social interactions, and promoting asking for/giving feedback*. The supportive information of the manual is structured as follows:

1. Introduction, corresponding with the conceptual model of the detailed design specifications;
2. Approach of the daily stand-up and closing, corresponding partly with the structural model of the detailed design specifications, and;
3. Implementation of the daily stand-up and closing, corresponding with the structural and causal model of the detailed design specifications.

The whole prototype can be found in Appendix H. In the next sections, I will display parts of the prototype corresponding to the 4C/ID blueprint and the detailed design specifications.

Construction: Introduction of the Manual

All the conceptual information as described in the conceptual model (Table 14), is constructed in the introduction of the manual (Figure 2). Here, supervisors can read the information to know what is required for students to take the role of the reflective practice professional.

Figure 2

Introduction of the Manual Prototype Corresponding to Conceptual Model

01 Introduction

What is the reflective practice professional and why is it important for you to guide students in this role?

The reflective practice professional is responsible for achieving formulated learning goals, asks for/gives feedback to others, and self-reflects on own actions and functioning. In this way, the professional learns from unique experiences, and can adapt the learned in a new healthcare situation.

Learning goals

It is crucial for students to take ownership of their learning process and actively strive towards their learning goals. By setting specific and challenging goals, such as SMART goals (specific, measurable, attainable, relevant, and time-bound), students become more motivated and engaged in their learning journey, leading to improved learning outcomes.

As a supervisor, you guide students in formulating SMART goals for better learning outcomes. Use their goals to understand their aspirations, motivations, and interests, and provide tailored support to help them achieve meaningful goals.

Feedback

Students should give, ask for and receive feedback. Feedback helps students to understand their performance, make improvements, and achieve desired outcomes. Feedback is most effective when provided on specific learning goals immediately after the performance.

You provide feedback on students' performance, gaining insights and identifying areas for improvement. Encourage students to seek feedback from peers and colleagues to enhance communication and collaboration within the department.

Self-reflection

Students enhance their learning through self-reflection, analyzing their experiences in a healthcare situation and applying newfound knowledge to different healthcare situations.

You play a vital role in guiding students through the self-reflection process using the STARRT method (Situation, Task, Action, Result, Reflection, Transfer). You gain valuable insights into students' strengths, challenges, and learning needs, enabling you to provide targeted guidance.

Construction: Approach of Daily Stand-Up and Closing

In the approach of the daily stand-up and closing in the manual prototype, supervisors can read how they can support students in taking the role of the reflective practice professional by co-regulating students in SRL during the daily stand-up and closing (Figure 3). Here, the structured time framework is presented. All this information is based on the structural models of Table 15, 20 and 23.

Construction: Implementation of the Daily Stand-Up and Closing

In this prototype manual, supervisors can find how to implement the daily stand-up and closing, corresponding to the structural and causal models of Table 15, 20 and 23. The daily stand-up and closing can be implemented in three phases, corresponding to the task classes (Figure 4): thinking along, documenting in free form, and documenting SMART and STARRT. Recommendations about explicit implementation and evaluations are made in the next chapter of Recommendations.

Implementation of Phase 1: Thinking Along

The first phase is Thinking along, corresponding with the least complex Task Class 1. This phase consists of three weeks, where supervisors co-regulate students in SRL during the daily stand-up and closing through social interaction. Supervisors can follow step one till step six, corresponding with the learning tasks and procedural information of Table 15, every working shift with the students available at their department for at least three weeks (Figure 5). If you look at the figure, you can recognize the learning tasks from Table 15 beneath the purple steps. Besides, you can recognize the procedural information in the text boxes “What should you do if...”

Figure 3

Approach of the Daily Stand-Up and Closing in the Manual Prototype

02 Approach

You are going to learn how to guide students in the role of the reflective practice professional during a daily stand-up and closing.

You are going to give students the space and time, and guide students to structurally act in the role of the reflective practice professional.

You guide a daily stand-up session from 8:00 to 8:15 at the beginning of the working shift, and a daily closing session from 15:30 to 15:45 at the ending of the working shift. In these sessions, you guide the caregiving students that work on the department that day. In the daily stand-up, you guide students in setting learning goals and promote feedback. In the daily closing, you guide students in self-reflection. Both sessions have the same structure: five minutes of individual thinking, five minutes of group discussion, and a plenary closing.

Daily stand-in: Goalsetting and promoting feedback

- 8:00 - 8:05: Individual thinking
- 8:05 - 8:10: Group discussion
- 8:10 - 8:15: Plenary closing

Daily closing: Self-reflection

- 8:00 - 8:05: Individual thinking
- 8:05 - 8:10: Group discussion
- 8:10 - 8:15: Plenary closing

Individual thinking	Group discussion	Plenary closing
Students think and/or write down their goalsetting and self-reflection individually.	Together with the group of students, you discuss the learning goals and self-reflection students set. You promote to ask for and give feedback.	You summarize the key takeaways and give positive feedback towards the learning process of the students.

Figure 4

Implementation of the Daily Stand-Up and Closing in the Manual Prototype

03 Implementation
How can you implement the daily stand-up and closing in your department?

YOU ARE GOING TO IMPLEMENT THE DAILY STAND-UP AND CLOSING IN YOUR DEPARTMENT IN THREE PHASES THAT INCREASE IN COMPLEXITY. EACH PHASE IS THREE WEEKS.

Students face difficulties in documenting their learning processes, such as writing down learning goals and self-reflection. However, it is important to teach them so, as this is a needed quality for a caregiving professional. You are going to guide students from thinking about their goalsetting and self-reflection to writing down their goalsetting and self-reflection in a SMART and STARRT way.

Phase 1: Thinking along	Phase 2: Documenting in free form	Phase 3: Documenting SMART and STARRT
In the first three weeks, you guide students in thinking about their goalsetting and self-reflection.	In the second three weeks, you guide students in writing down their goalsetting and self-reflection in free form.	In the third three weeks, you guide students in writing down SMART goals and STARRT self-reflection .

What is a SMART goal?
A SMART goal is a specific, measurable, attainable, relevant, and time-bound goal. It is an effective framework for setting clear goals and increasing motivation and success in achieving them.

What is a STARRT reflection?
A STARRT reflection is a structured approach to self-reflection that includes considering the Situation, Task, Action, Result, Reflection, and Transfer of a learning experience. Using the STARRT reflection method helps individuals thoroughly analyze their learning experiences, apply their knowledge to different situations, and grow personally through reflection.

Figure 5

Implementation of the Daily Stand-Up and Closing in the Manual Prototype – Phase 1: Thinking Along

03

Implementation
Phase 1: Thinking along

FOLLOW STEP 1 TILL STEP 6 THE FIRST THREE WEEKS OF TRIAL, EVERY WORKING SHIFT WITH THE STUDENTS AVAILABLE AT YOUR DEPARTMENT. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1 **Daily stand-in - Goalsetting and promoting feedback**
8:00 - 8:05 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What do you want to learn or achieve today?". Give students two minutes in silence to think about the question. After two minutes, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if...

students do not feel comfortable with thinking in silence. Acknowledge and respect their discomfort by providing alternative options. For example: writing down answers or engaging in brief discussions with peers.

students show resistance. Emphasize the importance of setting goals for personal growth and development. Provide examples or prompts to inspire students.

students do not want to share their learning goals with the group. Create a safe and non-judgemental environment where students feel comfortable sharing. For example, assure that their goals will be respected and that sharing can lead to valuable insights and support from their peers. If students choose not to share, respect their decision. Emphasize that sharing is optional and the focus is individual growth and progress.

Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 Group discussion

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

Questions to guide you through the group discussion

1. How do the learning goals of these two students relate to the assignments and competences you are now working on?
2. What are specific tasks or activities in the assignments that can help these students to achieve their learning goals?
3. Which skills or knowledge areas in the competences connect to the students' learning goals?
4. How can these students use the assignments to improve the competences they are targeting?
5. What extra resources or support do these students need to succeed in their learning goals within the assignments and competences?
6. What challenges might these students face, and how can we address them?
7. What strategies can these students use to maximize their learning and progress in the assignments and competences?
8. What are the opportunities for collaboration or learning from peers that can benefit these students?
9. How can the supervisor or colleagues guide and support these students as they work on their learning goals in the assignments and competences?

What should you do if....

you do not know which assignments and competences are relevant for students. You are always allowed to keep the relevant apprenticeship assignment book including competencies with you. Acknowledge your own limitations and express openness to learning together with the students. Encourage the students to share their understanding of relevant assignments and competences, creating a collaborative learning environment. For example, ask Question 1.

the group of students does not engage in the group discussion. Offer the questions above to kickstart the discussion. Share potential assignments or competences and ask students for their opinions or suggestions. This can serve as a starting point to build upon and generate their own ideas. If the whole group discussion is not productive, you can divide the students into smaller groups to foster more active participation. This allows for more focused discussions and give each student a chance to contribute.



Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 Plenary closing

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

Take these steps to close the daily stand-up plenary

1. Begin by expressing appreciation

Begin by expressing appreciation for the students' participation and willingness to share their learning goals with the group.

2. Summarize the learning goals

Summarize the main learning goals that were discussed during the group discussion, emphasizing their relevance to the assignments and competencies.

3. Recap beneficial strategies

Recap any specific tasks, activities, or strategies that were identified as beneficial for achieving the learning goals within the given context.

4. Address challenges

Address any challenges or obstacles that were raised during the discussion, and briefly discuss possible solutions or approaches to overcome them.

5. Promote feedback

Remind students of support and guidance available from the supervisor, their peers and colleagues by encourage students to seek feedback from their supervisor, peers and colleagues as they work towards their learning goals.

6. Conclude with encouragement

Conclude the plenary closing by encouraging students to keep their learning goals in mind as they continue their day, while expressing confidence in the students' ability to make progress towards their learning goals.

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily closing, check how everybody is doing, and remind them of their role as reflective practice professionals: we self-reflect on own actions and functioning. Ask students the question: "What did you learn today related to your goal, and what feedback did you receive?". Give students two minutes in silence to think about the question. After two minutes, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....

students do not feel comfortable with thinking in silence.

Acknowledge and respect their discomfort by providing alternative options. For example: writing down answers or engaging in brief discussions with peers.

students show resistance. Emphasize the importance of self-reflection for personal growth and development. Provide examples or prompts to inspire students.

students do not want to share their self-reflection with the group.

Create a safe and non-judgemental environment where students feel comfortable sharing. For example, assure that their self-reflection will be respected and that sharing can lead to valuable insights and support from their peers. If students choose not to share, respect their decision. Emphasize that sharing is optional and the focus is individual growth and progress.



Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

STARRT questions to lead the group discussion

S
situation

Ask students to describe a caregiving situation.

T
task

Let students describe what goal they wanted to achieve and how.

A
actions

What actions did the students take to achieve their goal? What priorities did they set? What knowledge and skills did they apply? What attitude did they show?

R
results

What was the ultimate result of their actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result? What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are students (un)satisfied with their results? What would they do differently next time?

T
transfer

How can students apply the activities in similar and more complex situations?



What should you do if....

the group of students does not engage in the group discussion.

Offer the STARRT questions above to kickstart the discussion. If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide the STARRT prompts, and all students give an answer related to their experience.

Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

Take these steps to close the daily stand-up plenary

1. Begin by expressing appreciation

Start by expressing appreciation for the students' participation and willingness to engage in self-reflection. This sets a positive tone and reinforces the value of their contributions.

2. Summarize the self-reflection

Summarize the key points and themes that emerged during the group discussion. This recap ensures that everyone is on the same page and helps to reinforce the takeaways from the individual reflections.

3. Highlight commonalities and differences

Highlight commonalities and differences among the self-reflections shared by the students. This helps to create a sense of connection and allows students to see that they are not alone in their experiences and challenges.

4. Recognize notable contributions

Acknowledge and recognize notable contributions made by students during the group discussion. This can include insightful observations, valuable perspectives, or helpful suggestions that emerged from the conversation.

5. Reflect on the overall learning process

Guide a brief reflection on the overall learning process, emphasizing the growth and development that occurred through self-reflection and group interaction. This reflection encourages students to recognize their progress and the value of sharing and discussing their experiences.

6. Conclude with encouragement

Conclude the plenary closing by encouraging students to continue to grow in the role of the reflective practice professional and apply the insights gained from self-reflection and group discussion.

Implementation of Phase 2: Documenting in Free Form

The second phase, known as the Documenting in free form phase, aligns with the more complex Task Class 2. This phase spans three weeks, during which supervisors engage in co-regulating students in SRL through social interaction during the daily stand-up and closing. The complexity of the tasks increases as supervisors are required to guide students in documenting their goalsetting and self-reflection, specifically in the SRL forethought and self-reflection phases. Supervisors will follow steps one to six, which correspond to the learning tasks and procedural information outlined in Table 20, during each working shift with the students available in their department for a minimum of three weeks (Figure 6). Again, you can recognize the learning tasks beneath the steps in purple, and the procedural tasks just-in-time in the “What should you do if...” boxes.

Implementation of Phase 3: Documenting SMART and STARRT

The third phase, referred to as the SMART and STARRT Documentation phase, corresponds to the most complex Task Class 3. Over a period of three weeks, supervisors again engage in co-regulating students in SRL through social interaction during the daily stand-up and closing. In this phase, supervisors face increased complexity as co-regulate students guide in documenting their goalsetting and self-reflection using the SMART (i.e., SRL forethought phase) and STARRT approach (i.e., SRL self-reflection phase). Supervisors are guided in this by taking step one till six, as displayed in Figure 7. These steps correspond with the learning tasks and procedural information as outlined in Table 23. In step 1 and 2, you will find the SMART and STARRT worksheets presented just-in-time. If students master the worksheets, supervisors may choose the fading technique, and remove scaffolding elements such as the SMART worksheet, allowing students to independently formulate SMART goals.

Figure 6

*Implementation of the Daily Stand-Up and Closing in the Manual Prototype – Phase 2:
Documenting in Free Form*

03 Implementation
Phase 2: Documenting in free form

AFTER COMPLETING THE FIRST PHASE, IT IS NOW TIME FOR PHASE 2: DOCUMENTING IN FREE FORM. STUDENTS WILL NOW LEARN TO DOCUMENT THEIR GOALSETTING AND SELF-REFLECTION IN FREE FORM, WHERE YOU GUIDE THEM. FOLLOW STEP 1 TILL STEP 6 EVERY WORKING SHIFT WITH THE STUDENTS AVAILABLE AT YOUR DEPARTMENT FOR THREE WEEKS OF TRIAL. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1 Daily stand-in - Goalsetting and promoting feedback
8:00 - 8:05 Individual thinking

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What do you want to learn or achieve today? Please write down your answer on a paper. You can express yourself in free form." Give students five minutes or less in silence to think about the question. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if....
students only take a few seconds to write down an unspecific goal/struggle with writing down a goal. Encourage students to take a little more time to write down a learning goal. Emphasize the importance of setting specific and meaningful goals that can guide their learning process. Provide SMART examples or prompts to help students clarify their goal.



S specific	M measurable	A Attainable	R Relevant	T Time-bound
What do you want to achieve?	When is the goal achieved?	Is the goal possible to achieve?	Is the goal relevant for your grow?	When do you achieve your goal?

Example: Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 *Group discussion*

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 *Plenary closing*

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What did you learn today related to your goal and what feedback did you receive? Please write down your answer on a paper. You can express yourself in free form." Give students five minutes or less in silence to think about the question. After five minutes or less, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....



students only take a couple of seconds to write down their self-reflection superficially (for example: logging instead of self-reflection). Encourage a deeper level of reflection. Show students the STARRT questions or ask students to elaborate further on their insights and feedback received. This will help students delve into a more meaningful and thoughtful analysis of their experiences.

students appear to be staring blankly or confused. Provide just-in-time the STARRT questions to guide students in self-reflection. Suggest key points to consider or offer examples to stimulate their thinking and facilitate the writing process.

STARRT questions to show students

S
situation

In what situation did you learn today?

T
task

What was your learning goal of today? How did you want to achieve this?

A
actions

What actions did you take to achieve your goal? What priorities did you set? What knowledge and skills did you apply? What attitude did you show?

R
results

What was the ultimate result of your actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result? What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are you (un)satisfied with your results? What would you do differently next time?

T
transfer

How can you apply the activities in similar and more complex situations?

Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

STARRT questions to lead the group discussion

S
situation

Ask students to describe a caregiving situation.

T
task

Let students describe what goal they wanted to achieve and how.

A
actions

What actions did the students take to achieve their goal? What priorities did they set? What knowledge and skills did they apply? What attitude did they show?

R
results

What was the ultimate result of their actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result? What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are students (un)satisfied with their results? What would they do differently next time?

T
transfer

How can students apply the activities in similar and more complex situations?



What should you do if....

the group of students does not engage in the group discussion.

Offer the STARRT questions above to kickstart the discussion. If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide the STARRT prompts, and all students give an answer related to their experience.

Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

You can use the guidelines and tips from Phase 1, Step 6 here again

Figure 7

Implementation of the Daily Stand-Up and Closing in the Manual Prototype – Phase 3: Documenting SMART and STARRT

03 Implementation
Phase 3: Documenting SMART and STARRT

AFTER COMPLETING THE SECOND PHASE, IT IS NOW TIME FOR PHASE 3: DOCUMENTING SMART AND STARRT. STUDENTS WILL NOW LEARN TO DOCUMENT THEIR GOALSETTING AND SELF-REFLECTION IN THE SMART AND STARRT WAY, WHERE YOU GUIDE THEM. FOLLOW STEP 1 TILL STEP 6 EVERY WORKING SHIFT WITH THE STUDENTS AVAILABLE AT YOUR DEPARTMENT FOR THREE WEEKS OF TRIAL. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1 Daily stand-in - Goalsetting and promoting feedback
8:00 - 8:05 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students to write down individually their SMART goal of the day, using the Writing a SMART goal worksheet on the next page. Students write down their learning goal in five minutes or less. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if...

students experience difficulties with the worksheet. Provide additional explanations and examples to clarify the purpose of SMART goals and how to use it effectively. Offer guidance on each or a specific section of the worksheet.

students show resistance and do not complete the worksheet. Encourage students to at least write down their learning goal in any format they are comfortable with. Explain the benefits of having clear learning goals and how it can enhance their learning experience. Additionally, provide examples or prompts to help stimulate their thinking and inspire goalsetting.

students feel pressed for time to complete the worksheet. Offer flexibility by providing a shorter or simplified version that allows them to write down their learning goal. The focus should be on capturing the essential SMART goal, even if it means a more concise format.

Worksheet

Formulating a SMART goal

S
specific
What do you want to achieve?

M
measurable
When is the goal achieved?

A
Attainable
Is the goal possible to achieve?

R
Relevant
Is the goal relevant for your grow?

T
Time-bound
When do you achieve your goal?

Example: Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

My SMART goal of the day

Today, I am going to learn/achieve _____.
I do this by _____
with the help of _____
so I develop in _____.

Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 *Group discussion*

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 *Plenary closing*

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Give students five minutes or less, in silence, to write down their self-reflection, using the simplified version of the STARRT form that can be found on the next page. After five minutes or less, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....

students experience difficulties with the form. Provide clear explanations and examples of the STARRT method. Offer step-by-step guidance on one or each section and clarify any confusing instructions or terminology.

do not complete the form. Encourage students to still engage in self-reflection by writing down their thoughts and observations in any format they find comfortable. Emphasize the importance of reflecting on their actions and functioning, even if they do not follow the specific worksheet structure.

students feel pressed for time to complete the form. Be flexible and allow for a shorter reflection period or provide a condensed version of the form. For example, let students only fill out the questions corresponding to Situation and Task. Explain that students can further discuss Action, Result, Reflection, and Transfer in the group discussion. The focus should be on encouraging students to engage in meaningful self-reflection, even if it means adapting the time or format to accommodate their needs.



Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

Worksheet

Simplified version of the STARRT form



In what situation did you learn today?



What learning goal did you want to achieve in that situation?



What actions did you take to achieve your goal?



What was the ultimate result of your actions?



What did you learn from the situation and actions?



How can you apply the activities in similar and more complex situations?

Recommendations

In the Design and Construction Phase, I presented a phased implementation plan for the daily stand-up and closing. I am now going to recommend a pilot to implement this plan. The department of the domain expert already has experience with a less structured daily stand-up, so the same departments serves as a pilot group for this intervention. Each working shift of the pilot department involves the participation of approximately five students and one or two supervisors. Additionally, the supervisors have regular weekly meetings with the domain expert. By applying Lewin's change model (1947), known as "unfreeze, change, and refreeze," I provide specific recommendations for piloting the daily stand-up and closing in the department. Lewin's change model offers foundational concepts and insights for successful organisational change. In our case, the organisational change pertains to the implementation of the daily stand-up and closing. The initial step involves unfreezing human behaviour by raising awareness and establishing a compelling case for change. Subsequently, the change phase entails individuals within the department adopting new behaviours and addressing uncertainties. This stage necessitates sufficient time, effective communication, and a belief in the benefits of the proposed change. Finally, the refreeze step focuses on stabilizing the new equilibrium by balancing driving and restraining forces. It involves institutionalizing new practices through the formulation of policies and procedures, ensuring the sustained implementation of the change across other departments beyond the initial pilot department.

Recommendations for Unfreezing

In this phase, we raise awareness and establish a compelling case for change (Lewin, 1947).

Recommendation 1: Communication

Communicate the need for change and implementing the daily stand-up and closing to all relevant stakeholders, emphasizing the importance of students become reflective practice professionals. Here, I recommend developing a compelling argument for why implementation of the daily stand-up and closing is necessary, highlighting the benefits for both students and

the eldercare centre. For example, being a reflective practice professional is an established work process by the S-BB (2020) that every caregiving student must comply with in order to receive a diploma. By taking this role, students should be able to reflect on experiences and adapt to changing circumstances to navigate through the complex and unpredictable eldercare demand. By co-regulating students in this role during the daily stand-in and closing, this may improve patient safety and outcomes. In this communication, I recommend to address the possible concerns. Anticipate potential resistance or challenges from supervisors and other stakeholders, and proactively address their concerns through open dialogue and clarifying the purpose and expected outcomes of the pilot.

Recommendations for Change

The change phase entails individuals within the department adopting new behaviours and addressing uncertainties (Lewin, 1947).

Recommendation 2: Implement Phase 1 of the Daily Stand-In and Closing, Thinking Along

In Phase 1: Thinking along, supervisors will facilitate group discussions during the daily stand-up, wherein students will express their desired learning outcomes or goals for the day. This process of guiding and supporting students in determining their goals aligns with co-regulating students in the SRL forethought phase. Additionally, supervisors will encourage the exchange of feedback among students during this session. Similarly, during the daily closing, supervisors will lead a group discussion focused on self-reflection regarding the achieved learning goals and the feedback received. This aspect of co-regulation corresponds to the self-reflection phase of students' SRL journey. To implement this phase, I recommend the domain expert to conduct a training session for supervisors during the weekly meeting between the domain expert and supervisors to explain the purpose, structure, and expected outcomes of the daily stand-up and closing. Before the training session, the domain expert can send the designed manual to the supervisors, so supervisors can ask questions.

After the training session, the supervisors can start with implementing Phase 1: Thinking along for three weeks, during every working shift. It is important that the domain expert offers

continuous guidance and feedback to supervisors throughout Phase 1 during the weekly meetings with the supervisors, ensuring they feel confident in their role of co-regulating students in the role of the reflective practice professional.

Recommendation 3: Implement Phase 2 of the Daily Stand-In and Closing, Documenting in Free Form

Expand the daily stand-up and closing to include support for students in documenting their learning goals during the daily stand-up and self-reflection during the daily closing. I recommend providing training on goalsetting and self-reflection: Conduct specific training sessions for supervisors on guiding students in setting SMART learning goals and capturing effective self-reflection, using the STARRT method. Training sessions can be provided during the weekly meetings between the domain expert and supervisors. When there is too little time, the domain expert can choose to make short instructional videos on the topic, so supervisors can watch the videos when they have the time. Besides, I recommend to foster a culture of ongoing improvement by collecting feedback from supervisors and students, identifying areas for refinement, and providing additional training or resources as needed.

Recommendation 4: Implement Phase 2 of the Daily Stand-In and Closing, Documenting SMART and STARRT

Further support supervisors in co-regulating students in SRL by guiding them in writing down SMART learning goals during the daily stand-up and facilitating self-reflection according to the STARRT method during the daily closing. Reinforce the training by offering additional training and resources to supervisors to ensure they have the necessary skills and knowledge to effectively guide students in this more complex phase. Besides, I recommend to encourage peer learning between the supervisors. Foster opportunities in the weekly meetings between the domain expert and supervisors to share their best practices, exchange experiences, and learn from one another to enhance their co-regulation strategies.

Recommendations for Refreezing

Refreeze focuses on stabilizing the new equilibrium by balancing driving and restraining forces (Lewin, 1947).

Recommendation 5: Evaluation and Adjustment

Regularly evaluate the implementation and effectiveness of the daily stand-up and closing in each phase. Each phase lasts three weeks, so I would recommend making time for evaluation in the fourth week, before continuing with the next phase.

Evaluation and Adjustment in Phase 1: Thinking Along. During the less complex phase of Thinking along, is important to conduct an evaluation aimed at assessing the overall attitude and perceived effectiveness of the daily stand-up and closing (Brinkerhoff, 1987). To accomplish this, I recommend organizing a focus group session after three weeks during the designated time for a daily stand-up. A focus group is a qualitative research method that involves a structured discussion among a small group of participants, guided by a moderator (i.e., the domain expert; Plummer, 2017). The purpose of a focus group is to gather in-depth insights, opinions, and perceptions on a specific topic of interest. Participants are selected based on their relevant experiences or characteristics, and they engage in open and interactive conversations, sharing their thoughts, experiences, and perspectives with each other. This session should involve the participation of the domain expert, supervisors, and students, allowing the domain expert to pose relevant questions within the allocated 15-minute timeframe to evaluate the general attitude and perceived usefulness of the daily stand-up and closing. Table 26 provides examples of the types of questions that can be asked during this evaluation process.

Table 26

Examples of Focus Group Questions of Phase 1: Thinking Along

How would you describe your overall experience with the daily stand-up and closing? Do you find it beneficial in supporting students in the role of the reflective practice professional?

What are specific examples of how the daily stand-up and closing have influenced students' ability to set goals and engage in self-reflection?

Have you observed any changes in the students' behaviour or approach to their work since the implementation of the daily stand-up and closing? If so, could you elaborate on these changes?

What challenges, if any, have you encountered during the implementation of the daily stand-up and closing?
How have you addressed or overcome these challenges?

Based on your experience so far, what suggestions or improvements would you propose to enhance the effectiveness of the daily stand-up and closing in supporting students' development as reflective practice professionals?

Evaluation and Adjustment in Phase 2: Documenting in Free Form. After three weeks of implementing the more complex phase of Documenting in free form, evaluate the effectiveness of the daily stand-up and closing in supporting students' goalsetting and self-reflection (Brinkerhoff, 1987). I recommend the domain expert to do short 1-on-1 interviews with the students during the designated time for the daily stand-up and closing. Individual interviews allow for a more detailed and thorough exploration of a participant's experiences, opinions, and perspectives (Knott et al., 2022). Examples of questions are described in Table 27.

Table 27

Examples of Interview Questions for Students in Phase 2: Documenting in Free Form

How has the daily stand-up helped you in setting and clarifying your goals for the day?

To what extent do you feel that the daily closing has facilitated your ability to reflect on your learning progress and experiences?

Have you found the daily closing session beneficial in helping you review your goals and reflect on your accomplishments or challenges encountered throughout the day?

Do you believe that the daily stand-up and closing have enhanced your skills as a reflective practice professional?

In what ways do you think the daily stand-up and closing can be further improved to better support your goalsetting and self-reflection processes in the role of the reflective practice professional?

I recommend the domain expert to do a focus group with the supervisors during the weekly meeting. In Table 28, you can find questions to ask to lead the focus group.

Table 28

Examples of Focus Group Questions with Supervisors in Phase 2: Documenting in Free Form

How effective have the daily stand-up sessions been in facilitating students' ability to document their learning goals?

In what ways have you observed the daily closing sessions supporting students in reflecting on their progress and identifying areas for improvement?

How has the practice of supervisors guiding students to write down their learning goals during the daily stand-up influenced students in taking the role of the reflective practice professional?

Have you noticed any specific changes in students' self-reflection practices as a result of the daily closing sessions? If so, what are some examples?

Based on your experience, what adjustments or enhancements could be made to the daily stand-up and closing sessions to further strengthen supporting students in the role of the reflective practice professional?

Evaluation and Adjustment in Phase 3: Documenting SMART and STARRT. For evaluating the impact of the daily stand-up and closing in the most complex phase of Documenting SMART and STARRT on students' development as reflective practice professionals, I recommend conducting individual interviews with the students. These interviews can again be conducted after the three weeks of implementing Phase 3, during the designated time of the daily stand-up and closing. In Table 29, you can find five questions that can be used in the interviews.

Table 29

Examples of Interview Questions for Students in Phase 3: Documenting SMART and STARRT

How has the implementation of the daily stand-up and closing sessions influenced your understanding of the role of a reflective practice professional?

In what ways has the use of SMART goals during the daily stand-up helped you in setting and achieving your learning goals?

What are specific examples of how the STARRT method during the daily closing has enhanced your self-reflection and ability to adapt to changing circumstances?

How has the guidance by the supervisors, and the SMART and STARRT tools, during the daily stand-up and closing supported your growth as a reflective practice professional?

Reflecting on your overall experience with the daily stand-up and closing, what suggestions or improvements would you recommend to make this approach more effective in supporting your development in the role of the reflective practice professional?

I recommend conducting a focus group with the supervisors in the most complex phase of Documenting SMART and STARRT to gather their insights and perspectives on the impact of the daily stand-up and closing sessions on students' development as reflective practice professionals (Brinkerhoff, 1987). In Table 30, you can find questions the domain expert can ask during the focus group.

Table 30

Examples of Focus Group Questions with Supervisors in Phase 3: Documenting SMART and STARRT

In your experience, how has the implementation of the daily stand-up and closing sessions influenced students' ability to set SMART learning goals and engage as reflective practice professionals?

How has the implementation of the daily stand-up and closing sessions helped you in guiding students in the role of the reflective practice professional?

What specific changes have you observed in students' behaviour and mindset as they participate in the daily stand-up and closing sessions in terms of their role as reflective practice professionals?

How has the application of the STARRT method during the daily closing supported students in reflecting on their experiences, adapting to challenges, and enhancing their growth as a reflective practice professional?

Based on your interactions with students during the daily stand-up and closing sessions, what suggestions or improvements would you recommend to further enhance the effectiveness of this approach in supporting students' development as reflective practice professionals?

Recommendation 6: Institutionalize the Practice

Once the effectiveness of the daily stand-up and closing has been confirmed, integrate the daily stand-up and closing into other departments of the eldercare centre. I recommend to update relevant policies, procedures, and training materials to ensure the sustained implementation of the daily stand-up and closing. Provide ongoing support and training for supervisors to strengthen their skills in co-regulating students in SRL to take the role of the reflective practice professional, and sustain the daily practice of the stand-up and closing.

Recommendations: A Closing Word

The implementation of daily stand-up and closing sessions provides a valuable opportunity for supervisors to co-regulate students in SRL and support their development as reflective practice professionals. Through these sessions, supervisors can actively engage with students in goalsetting and self-reflection, fostering a collaborative and supportive learning environment. The daily stand-up allows for discussions about learning goals and desired achievements, while the closing session promotes self-reflection on learning goals and feedback.

This co-regulation by supervisors is crucial because textual learning interventions alone are insufficient in cultivating students' ability to become reflective practice professionals. The

social interaction and guidance provided by supervisors during the daily stand-up and closing sessions play a vital role in facilitating students' growth in SRL. The insights gained from the educational design-based research approach are significant in this context. By engaging in this research, it became evident that supervisors were not adequately prepared to co-regulate students in SRL learning, particularly in aspects such as goalsetting, self-reflection, and feedback. This highlighted the need to shift the focus from a learning solution merely for students to act in the role of the reflective practice professional towards a learning solution for supervisors to guide students in the role of the reflective practice professional during a daily stand-up and closing.

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Appendix A
Document Analysis Coding Book

Category label		Category definition	Anchor example	Coding rule
Main categories	Sub categories			
Coding from Apprenticeship book of School 1				
SRL	The whole cycle of SRL	The learning intervention corresponds with the whole cycle of SRL phases, consisting of Forethought phase, Performance phase and Self-reflection phase (Zimmerman, 1989).	<p><u>“De Wegwijzer”</u> The “Wegwijzer”, a step-by-step plan, has been developed for students on how to plan, execute and reflect on a practice assignment. The first two steps (i.e., Orientation and Planning) correspond with the Forethought phase of the SRL theory (Zimmerman, 1989). In this, students ensure that they know what is expected of them, set goals, and plan. The third step (i.e., Execution) corresponds with the performance phase of the SRL theory (Zimmerman, 1989). Students carry out the exercise assignment according to plan, check whether the plan works or needs to be adjusted. Students request feedback from their supervisors through the feedback forms.</p> <p>The fourth and fifth steps (i.e., Evaluating and Reflection) correspond with the self-reflection phase of the SRL theory (Zimmerman, 1989). The students check together with the supervisors whether the result has been achieved, they look back at the entire implementation of the practice assignment and determine what could be done better next time. This leads again to the Forethought phase, which makes the SRL cycle complete.</p> <p><u>Personal Development Plan (PDP) and Personal Activity Plan (PAP)</u> The PDP and PAP are plans made by the students before the internship starts. The PDP and PAP contain practice assignments related to personal learning goals (i.e., Forethought phase). In the PDP, students indicate exactly what they want to learn and, in the PAP, they indicate how they are going to implement this (i.e., Forethought</p>	The learning intervention supports students individually through the whole cycle of SRL. The learning intervention should include all three phases of SRL: Forethought phase, Performance phase and Self-reflection phase.

			<p>phase). Students are guided with prompting questions, such as: “What do I want to learn? A personal learning goal SMART formulated in one sentence. Start with ‘I’ and the 4 W’s: “What and how am I going to do that? What do I need? Who can help me with that? What agreements have I made?”. In practice, the students then implement this plan and adjust it when necessary (i.e., Performance phase). After performance, it is evaluated whether the assignments and learning goals have been achieved and it is reflected on how the acquired knowledge, skills and attitudes can be applied in a subsequent situation (i.e., Self-reflection phase). Prompting questions are also provided here, such as: “How did it go? What did I learn? What not yet? What else do I want to learn about this”. By this, students are allowed to set new learning goals, which completes the SRL cycle.</p> <p><u>STARRT Form</u> For each step in the STARRT form, prompting questions are included to support students in SRL. The acronym starts with describing the Situation. In the second step of Task, students describe what goals need to be achieved and a plan towards those goals (i.e., Forethought phase). In the third step of Action, students justify how they act in a professional situation (i.e., Performance phase). In the fourth step of Results, students discuss which concrete results they achieved (i.e., Self-Reflection phase). In the fifth step of Reflection (i.e., Self-Reflection phase), students motivate their actions. In the Transfer step, students make new learning goals on how the performance of previous steps can be applied in comparable and more complex situations, which completes the SRL cycle.</p>	
	<p>SRL Forethought phase: Task analysis</p>	<p>The learning intervention corresponds with task analysis, which encompasses goalsetting and planning before learning efforts (Zimmerman, 1989).</p>	<p><u>Formulating SMART goals</u> Students are encouraged to discuss their learning goals with their supervisors at the start of the day. Here, students are provided with the SMART learning intervention to formulate their learning goals. SMART is an acronym for Specific, Measurable, Achievable, Relevant, and Time-bound.</p>	<p>The learning intervention supports students individually in setting goals and/or planning before learning efforts.</p>

<p>SRL Forethought phase: Self-motivation beliefs</p>	<p>The learning intervention corresponds with self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation.</p>	<p>X</p>	<p>The learning intervention supports students individually in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest, when students value the task for its own sake, and learning. And/or learning goal orientation, in which students value the learning process for its own sake.</p>
<p>SRL performance phase: Self-control</p>	<p>The learning intervention corresponds with self-control, which involves the use of strategies and methods selected in the previous Forethought phase (Zimmerman, 1989).</p>	<p>X</p>	<p>The learning intervention supports students individually in using strategies and methods selected in the Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies.</p>
<p>SRL performance phase: Self-observation</p>	<p>The learning intervention corresponds with self-observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).</p>	<p>X</p>	<p>The learning intervention supports students individually in self-recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.</p>
<p>SRL self-reflection phase: Self-judgment</p>	<p>The learning intervention corresponds with self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve</p>	<p><u>Rubrics</u> During the internship, students are assessed twice on their professional attitude in preparation for the interim evaluation and final evaluation. To self-evaluate whether the students are on track considering their learning goals, students are provided with the rubrics "Measuring Instrument Professional Attitude".</p>	<p>The learning intervention supports students individually in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason</p>

		it over time (Zimmerman, 1989).		for mistakes or successes.
	SRL self-reflection phase: Self-reaction	The learning intervention corresponds with self-reactions, which involves feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The learning intervention supports students individually in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
CoRL	Co-regulation of the whole cycle of SRL	The learning intervention corresponds with co-regulating the whole cycle of SRL phases, consisting of Forethought phase, Performance phase and Self-reflection phase (Zimmerman, 1989).	<p><u>Interviews</u></p> <p>Students need to do five official interviews: introductory interview, two progress interviews, an interim evaluation and a final evaluation. These interviews are planned by the students themselves. The supervisor is present during the conversations and, depending on the conversation, also the practical trainer and twice the coach of the school are present, all stimulating metacognitive processes during the interviews, such as: determining the learning and guidance need at the start of the internship (i.e., Forethought phase), determining progress in practical learning (i.e., Performance phase and Self-reflection phase), assessing progress in practical learning (i.e., Self-reflection phase) and completing the internship in which new goals for the next phase are determined, which completes the SRL cycle. Students make a report of each interview using forms they have received and have these signed by their supervisors.</p>	The learning intervention supports students through the whole cycle of SRL through social interaction. The learning intervention should include all three phases of SRL: Forethought phase, Performance phase and Self-reflection phase.
	Co-regulation	The learning intervention	X	The intervention supports students in

	of the forethought phase: Task-analysis	corresponds with co-regulating task analysis, which encompasses goalsetting and planning before learning efforts (Zimmerman, 1989).		setting goals and/or planning before learning efforts through social interaction.
	Co-regulation of the forethought phase: Self-motivation beliefs	The learning intervention corresponds with co-regulating self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation (Zimmerman, 1989).	X	The intervention supports students through social interaction in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest, when students value the task for its own sake, and learning through social interaction. And/or learning goal orientation, in which students value the learning process for its own sake, through social interaction.
	Co-regulation of performance phase: Self-control	The learning intervention corresponds with co-regulating self-control, which involves the use of strategies and methods selected in the previous Forethought phase (Zimmerman, 1989).	X	The learning intervention supports students in social interaction in using strategies and methods selected in the Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies.
	Co-regulation of performance phase: Self-observation	The learning intervention corresponds with co-regulating self-observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).	X	The learning intervention supports students in social interaction in self-recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.

	Co-regulation of self-reflection phase: Self-judgment	The learning intervention corresponds with co-regulating self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve it over time (Zimmerman, 1989).	X	The learning intervention supports students through social interaction in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason for mistakes or successes.
	Co-regulation of self-reflection phase: Self-reaction	The learning intervention corresponds with co-regulating self-reactions, which involve feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The learning intervention supports students through social interaction in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
Feedback	Feedback during action (i.e., reflection-in-action)	Feedback during an action, so performance can be analysed and improved during action (Schön, 1983).	X	Feedback asked or given by students/supervisors/practical trainers during an action, so performance can be analysed and improved during action (Schön, 1983).
	Feedback after action (i.e., reflection-on-action)	Feedback after an action, so performance can be analysed and improved after action (Schön, 1983).	<p><u>Feedback forms</u> After completing an apprenticeship practice assignment, supervisors fill in a feedback form using three thumbs that stand for: good, sufficient, not yet sufficient. This feedback allows the student to see which skills have been sufficiently developed and which can be developed even better.</p> <p><u>Feedback list</u> The completed feedback forms are recorded by the students in a feedback list.</p>	Feedback asked or given by students/supervisors/practical trainers after an action, so performance can be analysed and improved after action (Schön, 1983).

			This feedback list should be reviewed regularly with supervisors so that students can make strategies to work on criteria they have not yet received positive feedback on.	
Coding from Apprenticeship book of School 2				
SRL	The whole cycle of SRL	The learning intervention corresponds with the whole cycle of SRL phases, consisting of Forethought phase, Performance phase and Self-reflection phase (Zimmerman, 1989).	<u>"De Wegwijzer"</u> Idem as in "Document: Internship Book of School 1". <u>Personal Development Plan (PDP) and Personal Activity Plan (PAP)</u> Idem as in "Document: Internship Book of School 1".	The learning intervention supports students individually through the whole cycle of SRL. The learning intervention should include all three phases of SRL: Forethought phase, Performance phase and Self-reflection phase.
	SRL forethought phase: Task analysis	The learning intervention corresponds with task analysis, which encompasses goalsetting and planning before learning efforts (Zimmerman, 1989).	<u>SMART formulated learning goals</u> Idem as in "Document: Internship Book of School 1".	The learning intervention supports students individually in setting goals and/or planning before learning efforts.
	SRL forethought phase: Self-motivation beliefs	The learning intervention corresponds with self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation.	X	The learning intervention supports students individually in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest, when students value the task for its own sake, and learning. And/or learning goal orientation, in which students value the learning process for its own sake.
	SRL performance phase: Self-control	The learning intervention corresponds with self-control, which involves the use of strategies and	X	The learning intervention supports students individually in using strategies and methods selected in the Forethought phase,

		methods selected in the previous Forethought phase (Zimmerman, 1989).		such as imagery, self-instruction, attention focusing, and task strategies.
	SRL performance phase: Self-observation	The learning intervention corresponds with self-observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).	X	The learning intervention supports students individually in self-recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.
	SRL self-reflection phase: Self-judgment	The learning intervention corresponds with self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve it over time (Zimmerman, 1989).	<u>Rubrics</u> During the internship, students are assessed twice on their professional development corresponding with the CanMEDS roles in preparation for the interim evaluation and final evaluation. To self-evaluate whether the students are on track considering the CanMEDS roles, students are provided with the rubrics "Measuring Instrument Professional Attitude".	The learning intervention supports students individually in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason for mistakes or successes.
	SRL self-reflection phase: Self-reaction	The learning intervention corresponds with self-reactions, which involves feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The learning intervention supports students individually in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
CoRL	Co-regulation of the whole cycle of SRL	The learning intervention corresponds with co-regulating the whole cycle of SRL phases, consisting of	<u>Interviews</u> Idem as in "Document: Internship Book of School X".	The learning intervention supports students through the whole cycle of SRL through social interaction. The

		Forethought phase, Performance phase and Self-reflection phase (Zimmerman, 1989).		learning intervention should include all three phases of SRL: Forethought phase, Performance phase and Self-reflection phase.
	Co-regulation of the forethought phase: Task-analysis	The learning intervention corresponds with co-regulating task analysis, which encompasses goalsetting and planning before learning efforts (Zimmerman, 1989).	X	The intervention supports students in setting goals and/or planning before learning efforts through social interaction.
	Co-regulation of the forethought phase: Self-motivation beliefs	The learning intervention corresponds with co-regulating self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation (Zimmerman, 1989).	X	The intervention supports students through social interaction in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest, when students value the task for its own sake, and learning through social interaction. And/or learning goal orientation, in which students value the learning process for its own sake, through social interaction.
	Co-regulation of the performance phase: Self-control	The learning intervention corresponds with co-regulating self-control, which involves the use of strategies and methods selected in the previous Forethought phase (Zimmerman, 1989).	X	The learning intervention supports students in social interaction in using strategies and methods selected in the Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies.
	Co-regulation of the performance phase: Self-control	The learning intervention corresponds with co-regulating self-	X	The learning intervention supports students in social interaction in self-

	ce phase: Self- observatio n	observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).		recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.
	Co- regulation of the self- reflection phase: Self- judgment	The learning intervention corresponds with co-regulating self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve it over time (Zimmerman, 1989).	X	The learning intervention supports students through social interaction in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason for mistakes or successes.
	Co- regulation of the self- reflection phase: Self- reaction	The learning intervention corresponds with co-regulating self-reactions, which involve feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The learning intervention supports students through social interaction in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
Feedback	Feedback during action (i.e., reflection-in-action)	Feedback during an action, so performance can be analysed and improved during action (Schön, 1983).	X	Feedback asked or given by students/supervisors/practical trainers during an action, so performance can be analysed and improved during action (Schön, 1983).
	Feedback after action	Feedback after an action, so performance can be	<u>Feedback forms</u> After completing an apprenticeship practice assignment, supervisors fill in a	Feedback asked or given by students/supervisors/pr

	(i.e., reflection-in-action)	analysed and improved during action (Schön, 1983).	<p>feedback form to support students in adjusting the PDP and PAP, preparing the interviews, and allowing the student to see which skills have been sufficiently developed and which can be developed even better. This form consists of three columns: 1) Learning activity corresponding with assignment or personal learning goals; 2) Feedback; 3) Feedback from who.</p> <p><u>Feedback list</u> Idem as in "Document: Internship Book of School X".</p>	actical trainers after an action, so performance can be analysed and improved after action (Schön, 1983).
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Coding from Job profile supervisor

Co-regulatory/feedback tasks of supervisors	Co-regulatory tasks of supervisors in forethought phase: Task-analysis	The task of the supervisor corresponds with co-regulating task analysis, which encompasses goalsetting and planning before learning efforts (Zimmerman, 1989).	Checking with students, in consultation with practical trainers, which competencies have already been achieved and on which they will work during the apprenticeship.	The supervisor supports students in setting goals and/or planning before learning efforts through social interaction.
			Discussing with students which assignments must be carried out to achieve acquired competences.	
			Formulating together with the students which concrete behaviour they must display to be considered competent.	
			Stating the learning goals achieved and the learning goals still to be achieved, so that the students can base their follow-up on this in relation to their apprenticeship assignments.	
			Linking learning goals/apprenticeship assignments to the students' work situation.	
			Stimulating students to work with a plan of action.	
Co-regulatory tasks of supervisors in forethought phase: Self-motivation beliefs	The task of the supervisor corresponds with co-regulating self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation	X	The supervisor supports students in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest when students value the task for its own sake. And/or learning goal orientation, in which students value	

		(Zimmerman, 1989).		the learning process for its own sake.
Co-regulatory tasks of supervisors in performance phase: Self-control	The task of the supervisor corresponds with co-regulating self-control, which involves the use of strategies and methods selected in the previous Forethought phase (Zimmerman, 1989).		Making proposals to improve students' learning process.	The supervisor supports students in using strategies and methods selected in the Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies.
			Promoting students' progress of the work by taking precautions or intervening in a timely manner in the event of possible disruptions.	
			Giving students the opportunity to influence the structure and content of their learning process.	
			Identifying and discussing opportunities and potential bottlenecks in students' learning process.	
			Organizing, signalling, and adjusting learning activities to the learning process and/or year of the students.	
Co-regulatory tasks of supervisors in performance phase: Self-observation	The task of the supervisor corresponds with co-regulating self-observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).		X	The supervisor supports students in self-recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.
Co-regulatory tasks of supervisors in self-reflection phase: Self-judgment	The task of the supervisor corresponds with co-regulating self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve it over time (Zimmerman, 1989).		Stimulating the students to reflect on themselves.	The supervisor supports students in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason for mistakes or successes.

	Co-regulatory tasks of supervisors in self-reflection phase: Self-reaction	The task of the supervisor corresponds with co-regulating self-reactions, which involve feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The supervisor supports students in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
	Feedback tasks of supervisors: Reflection-in-action	The feedback tasks of supervisors correspond with reflection-in-action (Schön, 1983): supervisors give feedback on students' performance during the action.	X	The feedback tasks of supervisors correspond with reflection-in-action (Schön, 1983): supervisors give feedback on students' performance during the action. Only to code when the task is performed by the supervisor.
	Feedback tasks of supervisors: Reflection-on-action	The feedback tasks of supervisors correspond with reflection-on-action (Schön, 1983): supervisors give feedback on students' performance after the action.	Providing regular feedback on the work performed. Giving feedback on the performance of the actions.	The feedback tasks of supervisors correspond with reflection-on-action (Schön, 1983): supervisors give feedback on students' performance after the action. Only to code when the task is performed by the supervisor.
Document: Job Profile Practical Trainer				
Co-regulatory/feedback tasks of practical trainers	Co-regulatory tasks of practical trainers in foreground phase: Task-analysis	The task of the practical trainer corresponds with co-regulating task analysis, which encompasses goalsetting and planning before	Drawing up a learning plan in which practical trainers consider the language level of the students, so that the plan is understandable for the students. When drawing up the curriculum, giving priority to the students' learning style, learning and guidance needs within the given learning situation and the learning	The practical trainer supports students in setting goals and/or planning before learning efforts.

		learning efforts (Zimmerman, 1989).	path they follow, so that the curriculum is fully tailored to the individual student.	
			Planning individual learning situations for the students at the workplace level, whereby practical trainers coordinate goals, actions, time, and resources so that individual learning situations can be carried out at the workplace level.	
	Co-regulatory tasks of practical trainers in forethought phase: Self-motivation beliefs	The task of the practical trainer corresponds with co-regulating self-motivation beliefs, which encompasses students' beliefs about learning: self-efficacy beliefs, intrinsic interests and learning goal orientation (Zimmerman, 1989).	Recognizing and naming the learning and development needs of the students and discussing opportunities for the students to develop (further), so that they feel supported in their learning process.	The practical trainer supports students in self-efficacy, which is the belief in personal ability and outcome expectations about personal results. And/or intrinsic interest when students value the task for its own sake. And/or learning goal orientation, in which students value the learning process for its own sake.
	Co-regulatory tasks of practical trainers in performance phase: Self-control	The task of the practical trainer corresponds with co-regulating self-control, which involves the use of strategies and methods selected in the previous Forethought phase (Zimmerman, 1989).	X	The practical trainer supports students in using strategies and methods selected in the Forethought phase, such as imagery, self-instruction, attention focusing, and task strategies.
	Co-regulatory tasks of practical trainers in performance phase: Self-observation	The task of the practical trainer corresponds with co-regulating self-observation, which involves self-recording events or conducting self-experiments to understand the cause of those events (Zimmerman, 1989).	X	The practical trainer supports students in self-recording events, self-experiments, and self-monitoring which is a subtle form of self-observation that involves cognitively tracking one's own performance and functioning.

Co-regulatory tasks of practical trainers in self-reflection phase: Self-judgment	The task of the practical trainer corresponds with co-regulating self-judgment, which involves self-evaluation and causal attribution after the learning attempt to reflect on the learning process, adjust and adapt it, and continuously improve it over time (Zimmerman, 1989).	Conducting individual and group-oriented interviews with the students to invite them to reflect on planning and organizing personal development within the learning path and monitoring the progress of the learning process and learning performance in relation to the qualification and/or learning goals.	The practical trainer supports students in self-judgment by comparing one's performance against a standard such as prior performance, other's performance, or an absolute standard. And/or through causal attribution which is the belief about the reason for mistakes or successes.
Co-regulatory tasks of practical trainers in self-reflection phase: Self-reaction	The task of the practical trainer corresponds with co-regulating self-reactions, which involve feelings of satisfaction and positive emotions towards performance, which can enhance motivation, or decreased satisfaction which can hinder future learning efforts (Zimmerman, 1989).	X	The practical trainer supports students in self-reactions to involve feelings, emotions, and adaptive/defensive responses.
Feedback tasks of supervisor s: Reflection -in-action	The feedback tasks of practical trainer correspond with reflection-in-action (Schön, 1983): supervisors give feedback on students' performance during the action.	X	The feedback tasks of practical trainers correspond with reflection-in-action (Schön, 1983): practical trainers give feedback on students' performance during the action. Only to code when the task is performed by the practical trainer.
Feedback tasks of supervisor s: Reflection -on-action	The feedback tasks of supervisors correspond with reflection-on-action (Schön, 1983): practical trainers give feedback on students' performance after the action.	X	The feedback tasks of practical trainers correspond with reflection-on-action (Schön, 1983): practical trainers give feedback on students' performance after the action. Only to code when the task is

				performed by the practical trainer.
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Appendix B

Interview Guide Students (Translated in English)

Introductory text

Hi and welcome to this interview. First, I want to thank you for taking the time to participate in this interview. I will introduce myself first and then give some information about the interview. My name is Beau and I am doing the master's in Educational Science and Technology at the Twente University. I asked you to participate in this interview because I am going to research how students can be supported in the role of the reflective practice professional during the apprenticeship.

In total, there are 16 main interview questions. The interview will last a maximum of 45 minutes. I make audio recordings during the interview. This recording is for my use only, so I can write down what is said during this interview. After the research is completed, I will delete the audio recording. The results of this research will be processed anonymously and confidentially. This means that anything you say in this interview cannot be traced back to your name. The anonymous and confidential results are shared with the Twente University and its online database, the eldercare centre, and my internship organisation.

I would also like to know a little more about you: who are you? How long have you been working at the elderly care centre? How do you experience the apprenticeship?

Start recording

As I just said, I am researching the role of the reflective practice professional. You may have heard of it: during your apprenticeship, you are trained to various roles that you can practice as a healthcare professional. One of these roles is the reflective evidence-based practice professional. This role consists of two roles: the evidence-based practice professional and the reflective practice professional. In this research I focus on the reflective practice professional. The reflective professional is described as follows: "The starting professional in the role of the reflective professional formulates measurable, challenging and feasible goals for improvement for her work and shows responsibilities in achieving these".

1. To what extent does the role and description of the reflective practice professional sound familiar to you?
2. What do you learn at school about the reflective practice professional and what does training in the role of the reflective professional look like in practice?

3. To what extent has it been made clear to you how to develop in the role of the reflective professional?

SRL (Forethought phase)

Setting goals is a key concept in the description of the role of the reflective professional in the Dutch caregiver qualification. Here, you formulate measurable, challenging, and feasible goals for improvement and you show responsibility in achieving these.

4. How important do you find setting goals?
5. How do you set goals for yourself?
 - a. Which problems do you encounter?
 - b. To what extent do you need guidance in setting goals?
7. How do you plan towards achieving your goal?
 - a. What problems do you run into?
 - b. To what extent do you need guidance in planning?

SRL (Performance phase)

8. To what extent are you able to adapt actions/thoughts/behaviour/learning strategies to achieve these goals in practice?
 - a. What problems do you run into?
 - b. To what extent do you need guidance in this?

SRL (Self-reflection phase)

Reflection is also a key concept in the description of the role of the reflective practice professional. In the apprenticeship book, reflection is described as follows: "Reflecting is looking back critically on your actions: what went well, what could be improved and how am I going to approach things differently next time? In this way you learn to act consciously and you promote the transfer (application in a different situation) of knowledge, skills, and attitude. This means that you learn to look beyond that one specific situation, so that you can also apply this knowledge, skills, and attitude in other situations. Reflection should therefore always be part of your working method. For each assignment, you are asked to assess yourself and answer the question: what went well and what could be improved?"

10. How do you reflect on apprenticeship assignments?
 - a. What problems do you run into?
 - b. To what extent do you need guidance in this?

11. How do you reflect on your daily practice?
 - a. What problems do you encounter?
 - b. To what extent do you need guidance in this?
12. What would be a pleasant way for you to self-reflect?

Feedback

Feedback is a third key concept in the description of the role of the reflective practice professional, where you are expected to ask for feedback and give feedback to others.

13. How useful do you find feedback?
14. To what extent do you ask for feedback from others?
 - a. What problems are you experiencing during asking for feedback?
 - b. What would help you to ask for feedback?
15. To what extent do you get feedback from others?
 - a. What problems are you experiencing during getting feedback?
16. To what extent do you give feedback to others?
 - a. What problems are you experiencing?
 - b. What would help you in giving feedback to others?

These were my questions. Thanks for the interview. Do you have any questions or comments about this interview? In the coming weeks, I will conduct further interviews with other students, supervisors, and practical trainers from [name organisation]. If you are interested in the results of this research, I can send them to you after the research is completed.

Appendix C

Interview Guide Supervisors (Translated in English)

Introductory text

Hi and welcome to this interview. First, I want to thank you for taking the time to participate in this interview. I will introduce myself first and then give some information about the interview. My name is Beau and I am doing the master's in Educational Science and Technology at the Twente University. I asked you to participate in this interview because I am going to research how students can be supported in the role of the reflective practice professional during the apprenticeship.

In total, there are 15 main interview questions. The interview will last a maximum of 45 minutes. I make audio recordings during the interview. This recording is for my use only, so I can write down what is said during this interview. After the research is completed, I will delete the audio recording. The results of this research will be processed anonymously and confidentially. This means that anything you say in this interview cannot be traced back to your name. The anonymous and confidential results are shared with the Twente University and its online database, the eldercare centre, and my internship organisation.

First, I would like to know a bit more about you. Who are you, and how do you find your work as a caregiver supervisor?

Start recording

As I just said, I am researching the role of the reflective practice professional. You may have heard of it: healthcare professionals should practice different roles, and students are trained to perform these roles in their apprenticeships. One of these roles is the reflective evidence-based practice professional. This role consists of two roles: the evidence-based practice professional and the reflective practice professional. In this research I focus on the reflective practice professional. The reflective professional is described as follows: "The starting professional in the role of the reflective professional formulates measurable, challenging and feasible goals for improvement for her work and shows responsibilities in achieving these".

1. To what extent does the role and description of the reflective practice professional sound familiar to you?
2. How do you experience training students to become reflective practice professionals at [the elderly care centre]?

SRL (forethought phase)

Setting goals is a key concept in the description of the role of the reflective practice professional. Students should formulate measurable, challenging, and feasible goals for improvement and showing responsibility in achieving these. You, the supervisor, also play an important role in setting goals for students. For example, supervisors should name the achieved goals and yet to be achieved goals.

3. What is your experience with students who set their own learning goals?
 - a. To what extent do they succeed in learning from their own learning goals?
 - b. What problems do they encounter?
4. How do you help the student formulate learning goals?
5. How do you help the students in planning working towards those goals?

SRL (performance phase)

I would like to ask some questions about self-regulated learning. A self-regulatory student is described as follows: "A successful self-regulatory student proactively sets personally defined goals and learning strategies. These are based on awareness of one's own strengths and weaknesses. The student monitors behaviour through goals and self-reflection." (Zimmerman, 1989)

6. To what extent do you recognize your students in this description?
 - a. What is already going well?
 - b. What problems do they encounter?
7. How do students monitor their actions and behaviour while performing the plan to achieve their goals?
 - a. What is already going well?
 - b. What problems do they encounter?
 - c. How do you guide students in this?
8. How can we support students in SRL?

SRL (self-reflection phase)

We now turn to the concept of self-reflection in the description of the reflective practice professional: "The starting professional practitioner reflects on his own actions and functioning." In the document of the job profile supervisor is described that the supervisor directly supervises the student on the work floor. Besides, the supervisor assesses the student's progress and stimulates the student to reflect.

9. To what extent do you find self-reflection useful for students in their apprenticeship?
10. How do you invite students to self-reflect?
 - a. Which problems do you encounter?
 - b. What kind of support do you need in this?
11. To what extent do students succeed in reflecting on their learning performance and functioning?
 - a. Which problems do they encounter?
 - b. What do you think students need to make reflecting always part of the students' daily practice?

Feedback

Feedback is a third key concept in the description of the role of the reflective practice professional. Here, we expect students to ask for feedback and give feedback to others. Giving feedback is a skill that the supervisor should master to regularly provide feedback on the activities performed and actions of the student.

12. What do you think of giving feedback to students?
13. How do you give feedback to students?
 - a. Which problems do you encounter?
 - b. What would help you in giving feedback to students?
14. To what extent do students ask for feedback from you?
 - a. Which problems do you encounter?
 - b. What would help students in asking for feedback?
15. To what extent do students give feedback?
 - a. Which problems do they encounter?
 - b. What would help students in giving feedback?

These were my questions. Thanks for the interview. Do you have any questions or comments about this interview? In the coming weeks, I will conduct further interviews with other students, supervisors, and practical trainers from [name organisation]. If you are interested in the results of this research, I can send them to you after the research is completed.

Appendix D

Interview Guide Practical Trainers (Translated in English)

Introductory text

Hi and welcome to this interview. First, I want to thank you for taking the time to participate in this interview. I will introduce myself first and then give some information about the interview. My name is Beau and I am doing the master's in Educational Science and Technology at the Twente University. I asked you to participate in this interview because I am going to research how students can be supported in the role of the reflective practice professional during the apprenticeship.

In total, there are 14 main interview questions. The interview will last a maximum of 45 minutes. I make audio recordings during the interview. This recording is for my use only, so I can write down what is said during this interview. After the research is completed, I will delete the audio recording. The results of this research will be processed anonymously and confidentially. This means that anything you say in this interview cannot be traced back to your name. The anonymous and confidential results are shared with the Twente University and its online database, the eldercare centre, and my internship organisation.

First, I would like to know a bit more about you. Who are you, and how do you find your work as a caregiver practical trainer?

Start recording

As I just said, I am researching the role of the reflective practice professional. You may have heard of it: healthcare professionals should practice different roles, and students are trained to perform these roles in their apprenticeships. One of these roles is the reflective evidence-based practice professional. This role consists of two roles: the evidence-based practice professional and the reflective practice professional. In this research I focus on the reflective practice professional. The reflective professional is described as follows: "The starting professional in the role of the reflective professional formulates measurable, challenging and feasible goals for improvement for her work and shows responsibilities in achieving these".

1. To what extent does the role and description of the reflective practice professional sound familiar to you?
2. How do you experience training students to become reflective practice professionals at [the elderly care centre]?
3. How do you make clear to the students how they can practice and develop this role?

SRL (forethought phase)

Setting goals is a key concept in the description of the role of the reflective practice professional. Students should formulate measurable, challenging, and feasible goals for improvement and show responsibility in achieving these. You, as a practical trainer also plays an important role in setting goals for students. At the start of the apprenticeship, practical trainers should develop an introduction plan, in which goals and an introduction activity plan are described. To realize the learning situation and the individual goals of the student, practical trainer should align goals, actions, time, and resources.

4. To what extent are you able to fulfil these activities to support your students?
 - a. What is already going well?
 - b. What problems do they encounter?
5. What is your experience with students who set their own learning goals?
 - a. To what extent do they succeed in this?
 - b. What problems do they encounter?
6. What is your experience with students who make their own plan towards these learning goals?
 - a. To what extent do they succeed in this?
 - b. What problems do they encounter?

SRL (performance phase)

I would like to ask some questions about self-regulated learning. A self-regulatory student is described as follows: "A successful self-regulatory student proactively sets personally defined goals and learning strategies. These are based on awareness of one's own strengths and weaknesses. The student monitors behaviour through goals and self-reflection." (Zimmerman, 1989)

7. To what extent do you recognize your students in this description?
 - a. What is already going well?
 - b. What problems do they encounter?
8. How do students monitor their actions and behaviour while performing the plan to achieve their goals?
 - a. What is already going well?
 - b. What problems do they encounter?
9. How can we support students in SRL?

SRL (self-reflection phase)

We now turn to the concept of self-reflection in the description of the reflective practice professional: "The starting professional practitioner reflects on his own actions and functioning." You as a practical trainer should support the students' learning trajectory by inviting them to reflect. The progress/changes are also kept by the practical trainer.

10. To what extent do you find reflection useful for students in their practical training?
11. How do you keep track of the progress/changes in the learning path of the students?
 - a. Which problems do you encounter?
 - b. What would help you in this?
12. How do you invite students to reflect?
 - a. Which problems do you encounter?
 - b. What would help you in this?
13. To what extent do the students succeed in reflecting on their learning performance and functioning?
 - a. Which problems do they encounter?
 - b. What do you think students need to make reflecting always part of the students' daily practice?

Feedback

Feedback is a key concept in the description of the role of the reflective practice professional in the Dutch caregiver qualification, where students are expected to ask for feedback and give feedback to others. Giving feedback is a skill that the supervisor should master to regularly provide feedback on the activities performed and actions of the student.

14. How do supervisors give feedback to students?
 - a. Which problems do you see?
 - b. What would help supervisors in this?

These were my questions. Thanks for the interview. Do you have any questions or comments about this interview? In the coming weeks, I will conduct further interviews with other students, supervisors, and practical trainers from [name organisation]. If you are interested in the results of this research, I can send them to you after the research is completed

Appendix E

Information Sheet for Research “The Role of the Reflective Practice Professional - An Educational design Research”

Goal of the research

This research is led by Beau Sluiter.

The aim of this research is to research how [name of the organisation]’s students can be supported in self-regulated learning, so they can take the role of the reflective practice professional. The research data will be used in a report to [eldercare centre organisation] to potentially enrich educating the role of the reflective practice professional. The data is also used in the research leader's graduation research and is shared with the Twente University.

How do we proceed?

You are participating in a research where we will collect data by:

- Interviewing you and recording/recording your answers via audio recording. A transcript of the interview will also be prepared.

Potential risks and inconveniences

- There are no physical, legal, or economic risks associated with participating in this research. You do not have to answer questions you do not want to answer. Your participation is voluntary and you can stop your participation at any time.

Compensation

You will not receive any compensation for participating in this research.

Confidentiality of data

We do everything we can to protect your privacy as well as possible. No confidential information or personal data of or about you will be released in any way that would allow anyone to recognize you. Before our research data is made public, your data will be anonymised as much as possible, unless you have given explicit permission for your name to be mentioned in our consent form, for example with a quote. Anonymous data or pseudonyms will be used in a publication. The audio recordings, forms and other documents made or collected in the context of this research are stored in a secure location at the Twente University and on the researchers' secure (encrypted) data carriers. The research data is stored for a period of 10 years. After the expiry of this period at the latest, the data will be deleted or made anonymous

so that they can no longer be traced back to a person. The research data will be made available to persons outside the research group if necessary (for example for a check on scientific integrity) and only in anonymous form. Finally, this research has been assessed and approved by the ethics committee of the Faculty of BMS (domain Humanities & Social Sciences) / EU / NWO / other.

Voluntary

Participation in this research is completely voluntary. As a participant, you can stop participating in the research at any time or refuse to allow your data to be used for the research, without stating reasons. Stopping participation will not have any adverse consequences for you or any compensation already received. If you decide to discontinue your cooperation during the research, the data you have already provided until the time of withdrawal of consent will be used in the study. Do you want to stop the research, or do you have questions and/or complaints? Please contact the research leader:

Beau Sluiter

[Tel. number]

[Email]

For objections regarding the design and/or implementation of the research, you can also contact the Secretary of the Ethics Committee / domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente via ethicscommittee-hss@utwente.nl. This research is carried out by the University of Twente, Faculty of Behavioural, Management and Social Sciences. If you have specific questions about the handling of personal data, you can also address them to the UT Data Protection Officer by sending an email to dpo@utwente.nl.

Finally, you have the right to submit a request to the Research Leader for inspection, change, deletion, or adjustment of your data.

Appendix F
Informed Consent

By signing this consent form, I acknowledge the following:

1. I have been sufficiently informed about the research by means of a separate information sheet. I have read the information sheet and then had the opportunity to ask questions. These questions have been sufficiently answered.
2. I voluntarily participate in this research. There is no express or implied compulsion for me to participate in this research. It is clear to me that I may terminate participation in the research at any time without giving any reason. I do not have to answer a question if I do not want to.

In addition to the above, it is possible below for various parts to give specific permission for the research. You can choose whether to give permission for each part. If you want to give permission for everything, this is possible via the check box at the bottom of the statements.

I give permission to process the data collected from me during the research as included in the attached information sheet.		
I give permission to make recordings (sound) during the interview and to transcribe my answers.		
I give permission to use my answers for quotes in the research publications.		
give permission for everything described above.	<input type="checkbox"/>	

Name Participant:

Name Researcher: Beau Sluiter

Signature:

Signature:

Date:

Date:

Appendix G

Problem Analysis Coding Book

Question: What are the problems regarding SRL (Zimmerman, 1989) during the apprenticeship according to students supervisors and practical trainers?		
Category definition: Perceived problems for students being able to perform one of the SRL phases (i.e., forethought, performance and self-reflection phase) or the whole cycle of SRL (Zimmerman, 1989) during the apprenticeship.		
Level of abstraction: Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.		
Main categories	Sub-categories	Text passages
A: Lack of time	A1: Lack of time in SRL forethought phase (Zimmerman, 1989)	<p>“Yes, I think setting goals is good... that you know what goal you have for the day. That you are working a little more consciously. I want to make time for it, but I do not think I can.” (Student 1)</p> <p>“Here, at this moment, you feel guilty if you have to sit down for a while because there is no time.” (Student 1)</p> <p>“I do think it's important to set goals, but there's no time.” (Student 4)</p> <p>“Planning and arranging also takes time and there is often no room for this in the workplace.” (Supervisor 2)</p>
	A2: Lack of time in SRL self-reflection phase (Zimmerman, 1989)	<p>“When I want to reflect, there is no time.” (Student 4)</p> <p>“It would be really good to do that [reflecting] but I do not think there is time for that.” (Student 5)</p> <p>“That's the time pressure. There is little room for students to work on assignments or reflection.” (Supervisor 2)</p> <p>“Yes, there is little time and room for reflection. [...] In my opinion, that is not seen sufficiently. We know that there is a shortage of caregivers, but I think we do not see enough of the effect this has on the students.” (Practical trainer 1)</p> <p>“I think that evaluation should take place around coffee time, or at lunch. Just certain moments where you can say: ‘How are you? Did we do everything we needed to??’ Just having a moment of evaluation.” (Practical trainer 1)</p>
	A3: Lack of time in general	<p>“But really time... in healthcare you have so little time, really bizarre.” (Student 2)</p> <p>“It is very busy in the workplace but also in my spare time. After work, I am far from finishing my tasks and I do all sorts of things, such as getting assignments done on time. Then I think that time does play an important part.” (Student 2)</p> <p>“That there is partly no time.” (Student 3)</p> <p>“It wasn't all that easy in my days, but what we had were moments to evaluate how your day went. Those were the moments where you just could talk about your own</p>

		<p>actions." (Practical trainer 1)</p> <p>"To give them time for that in the department anyway, because they often do not have that either." (Practical trainer 1)</p> <p>"Time. Time is a problem." (Practical trainer 2)</p>
B: Textual assignments	B1: Documenting	<p>"In recent years, I have had no experience with [textual] reflection. [...] but on paper it is just new. In practice, it [reflection] usually works out fine. I then think about what went well and what went less well. I often discuss with my colleagues what went well and what could be improved." (Student 1)</p> <p>"Regarding SMART, you must take each letter apart, point by point. I am just not into that: I am practical." (Student 2)</p> <p>"We have quite a few doers at level 3, and they just want to work, and they don't like documenting everything." (Supervisor 1)</p> <p>"I think the doers have more trouble with it than the thinkers who are more theoretical." (Supervisor 1)</p> <p>"When students reflect with me verbally, they understand reflection and reflect deeper. But when they reflect by themselves and write it down, and I read it back, I sometimes see that it [reflection] remains superficial." (Supervisor 1)</p>
	B2: Lack of in-depth self-reflection	<p>"Problems may be that some students do not reflect deeply enough. If they should write a reflection report, they keep it quickly and superficially, while the assignment's invitation is to go in-depth: start analysing your own behaviour, thoughts, and feelings. Some find that difficult or do not yet understand that is the intention." (Supervisor 1)</p> <p>"I have also had students who thought they made a reflection report, but it was more like a log. They described what they had done but not more than that. I then responded that the report was not a reflection report but a log or summary of what they have done. They do not write down what the thoughts, feelings are and what has been done with it and what can be done differently from now on." (Supervisor 1)</p>
	B3: Not understanding textual assignments	<p>"They can get an assignment from the teacher, but in their eyes, it has not been explained sufficiently, and they come to me that they do not understand what to do with the assignments." (Supervisor 1)</p> <p>"I quite often hear from students that they must swim at school and that they are not really supervised very well and then they ask us much more to explain the assignments because they don't understand it." (Supervisor 1)</p>
C: Lack of planning skills (i.e., SRL forethought phase, Zimmerman, 1989)	C1: Lack of planning skills	<p>"That's not quite my thing yet, planning to achieve goals." (Student 1)</p> <p>"Next time, for example, I would like to have made a better plan of action so that I can work on my assignments on time. I have trouble with that myself." (Student 4)</p> <p>"Planning and organizing is also a skill. That also varies per student. There are people who can do it from the start and some you must take by the hand. In my experience, the ones you need to take by the hand are the larger group." (Supervisor 1)</p> <p>"You have regular education and Montessori education. Montessori education also</p>

		<p>expects students to be able to plan a lot themselves, decide to do homework and so on. Some think that's fantastic, others then snow completely under." (Supervisor 1)</p> <p>"The students sometimes have no overview of what has to be learned and they have no idea whether those skills can be learned in their own department." (Supervisor 2)</p> <p>"For example, I have a lot of freshmen here. They can't plan very well." (Practical trainer 1)</p>
D: Difficulties in self-reflection (i.e., SRL self-reflection phase, Zimmerman, 1989)	D1: Not understanding concept of self-reflection	<p>"They sometimes do not understand what reflection is or what is expected of them." (Supervisor 1)</p> <p>"You always must explain to them what reflection exactly is. That is what people find very difficult." (Practical trainer 4)</p>
	D2: Lack of self-reflection skills	<p>" I often find it difficult to think of what went wrong. I often do not see this very well or only the bad side and that is often not the intention." (Student 5)</p> <p>"Certainly, with self-reflection, I sometimes see points for attention. That is sometimes done very badly, they are not very good at it. The young students. Sometimes also older people who already have a whole career behind them. And find it difficult to look at yourself and reflect on it properly." (Practical trainer 2)</p>
	D3: Not learning to self-reflect from the start	<p>"Reflection should be learned from day 1." (Practical trainer 1)</p> <p>"We are not really introducing reflection from the first day. Too few. Yes, that can certainly be improved." (Practical trainer 2)</p> <p>"That starts at the start of the apprenticeship. Make it clear, so students can expect and know how to reflect." (Practical trainer 4)</p>
E: Not seeing relevance of setting learning goals and self-reflection	E1: Not seeing relevance of learning goals	<p>"This is another subject where I notice that students are often not really concerned with their own learning goals." (Supervisor 1)</p> <p>"Because I have a lot of freshmen here, you see the struggles of: what is that? a personal learning goal and what will it bring me? (Practical trainer 1)</p>
	E2: Not seeing relevance of self-reflection	<p>"It kind of depends on what type of student you have. You have some students who really do learn from it [reflection], but there are also those who think: why am I doing it anyway?" (Supervisor 1)</p> <p>"Students experience it [reflection] more as an additional assignment, a "must", they must do." (Supervisor 1)</p> <p>"Sometimes they do not always see the point of it. They are also often busy, and they already have so much to do. The reflection reports are then a bit in the background and have something like well, I think it's totally fine." (Practical trainer 2)</p>
F: Lack of independency	A7: Lack of independency	<p>"Few students [I recognize in the description of SRL]. Most of them are... "either cling to school, or they cling to us, or both, but really [to self-regulate learning] by themselves... There are few students who are capable of doing that." (Supervisor 1)</p> <p>"I am more inclined to say: well, they really need some guidance." (Supervisor 1)</p>

<p>Question: What are the problems regarding CoRL during the apprenticeship according to students, supervisors and practical trainers?</p>		
<p>Category definition: Perceived problems for being able to co-regulate students' learning in one of the SRL phases (i.e., forethought, performance and self-reflection phase) or the whole cycle of SRL (Zimmerman, 1989) during the apprenticeship.</p>		
<p>Level of abstraction: Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.</p>		
<p>G: Lack of time with supervisor in the workplace</p>	<p>G1: Lack of time</p>	<p>"Well, time in the workplace anyway. They must make time for it anyway." (Student 2)</p> <p>"I just wish the supervisor would take the time. That shouldn't be rushed." (Student 4)</p> <p>"That is sometimes difficult, because I don't always walk around with my supervisor." (Student 5)</p> <p>"[...] and making more time available for supervising the students." (Supervisor 2)</p> <p>"So, a very reflective dialogue indeed: what are you doing? How are you going to handle it? [...] Anyway, level 3 and level 4, they are open to it in themselves. But they should have time for that." (Practical trainer 1)</p> <p>"I was a student myself and there was room in my time to just get to work with your supervisor. My supervisor also worked in the evenings. If we were just talking, we could also do things and learn together. That's just nice." (Practical trainer 1)</p>
	<p>G2: Different working shifts</p>	<p>"I am now in a phase where I can do more, such as providing medication under supervision. I perform, the supervisor checks. Then she also says: 'This is going well, and this is not going well'. This happened very often at first: one day every week and every other weekend. But for now, she only works [number of days] per week. I just work four days a week. So, you do not come across very quickly to reflect together again." (Student 2)</p> <p>"Now you see things happening in the schedule that a student has a day shift, and the supervisor has evening shifts. Well, you know, then you just must meet in the transfer. That's difficult." (Practical trainer 1)</p> <p>"Sometimes they [students and supervisors] have a completely different schedule and we try to ring the bell to the person who schedules the working shifts: making sure they have the same working shifts." (Practical trainer 1)</p>
<p>H: Lack of guidance in students' SRL by supervisors</p>	<p>H1: Lack of guidance in goalsetting</p>	<p>"I have been working in healthcare for so many years, [...], so then it is a bit of a search for what kind of goals you have or what you really want to achieve. Then it is nice if you can get a little more guidance." (Student 1)</p>
	<p>H2: Lack of guidance in self-reflection</p>	<p>"It should become more of a habit in the workplace that reflection is something you should discuss with each other. The supervisors must play a greater role here. When this stimulates the student more, there will be more results." (Practical trainer 3)</p>
<p>I: Students not feeling supported in</p>	<p>I1: Lack of engagement</p>	<p>"Sometimes you also need colleagues who say: 'Do you know that we do this too? Do you want to look?'. I notice that very few colleagues are inclined to do so." (Student 3)</p>

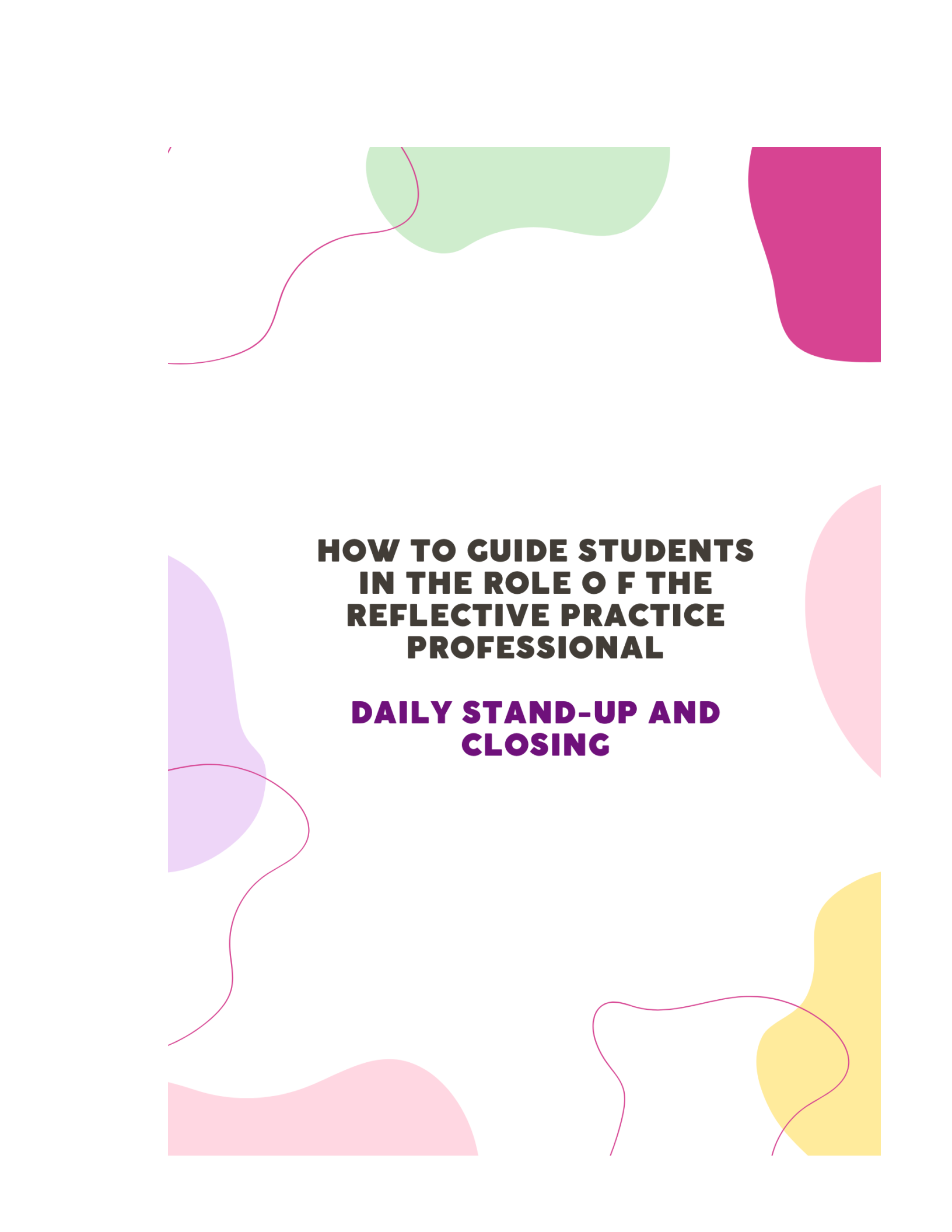
learning process by colleagues		"I had already discussed with my supervisor whether it would be possible once or twice a month to reflect on the assignments with colleagues, next to my work or at the end of the shift. It doesn't have to be every time, but that's also the training. You must be guided in that." (Student 4)
	I2: Lack of care	"I want to change this... I want to get better at this... but now I bump into the fact that other colleagues do not really care. Then you are told: 'Let it go, because nothing will happen anyway'." (Student 4)
	I3: Lack of motivation	"In the past, there were students who were less happy in other departments and that was because they were less guided in their learning process over there. [...] Those were supervisors who were supervisors because they had to be but did not want to." (Supervisor 1)
J: Lack of staff	J1: Lack of staff	"Firstly, giving people a role in the learning process. [...] If you want to be in the learning department, you also have to hire the people there." (Student 3) "It is also very busy, so there are too many students. One is busy organizing, ordering and then also supervising students with an employment contract of 28 hours... that is not possible." (Student 3)
K: Supervisors face difficulties in practicing/s upporting students in the role of the reflective practice professional	K1: Lack in goalsetting skills	"In practice, I see that formulating learning goals is difficult for most students, but also for the supervisors. I held a workshop for the work supervisors so that they can support the students in formulating a learning goal." (Practical trainer 3)
	K2: Unaware of CanMEDS roles	"Nowadays, the CanMEDS roles are used in almost every course, so that has started to come slowly since 2020. What we see is that these rolls are not so well known among the somewhat older generation. This is difficult because if they want to assess someone's behaviour based on the CanMEDS roles, they will look at me like: 'How am I going to do that?'" (Practical trainer 1) "I saw that a caregiver had to supervise a first year higher vocational education student and had to fill in an assessment form based on those CanMEDS roles. And they really had a bit of trouble with it, are we well informed about this? There is a point for us there." (Practical trainer 2)
	K3: Lack in supporting students' self-reflection	"What the opportunities are in this, anyway, is that I think we should train our supervisors for this, make them more familiar with it, so that they can better reflect on the students. What I sometimes see happen, reflection reports, and then I think: yes, it is approved by a supervisor, but it means nothing at all." (Practical trainer 2)
L: Learning interventions lack social interactions	L1: Lack of social interaction in self-reflection assignments	"Instead of filling in such a sheet, I prefer to have a conversation in which it is said what can be improved and what people think of it." (Student 2) "You can easily write down that something is going well, without a reason behind it, then I prefer someone to discuss it with face-to-face. Suppose you do not agree, you discuss this in person." (Student 2) "For example, when students fail, they will explore what they have done well and what not. They automatically discuss this with a colleague because they experienced tension. They have difficulties in writing down their self-reflection but reflecting verbally, well... almost everyone finds that useful and fun to do." (Supervisor 1)

	L2: Lack of social interaction in learning methods	<p>“It also shows that the learning methods it selves are insufficient. You need someone who can help with the experience of reflecting, setting goals and planning.” (Supervisor 1)</p> <p>“But then they miss the guidance of a teacher who guides them how to work with the learning method.” (Supervisor 1)</p>
<p>Question: What are the problems regarding feedback during the apprenticeship according to students, supervisors and practical trainers?</p>		
<p>Category definition: Perceived problems for being able to co-regulate students’ learning in one of the SRL phases (i.e., forethought, performance and self-reflection phase) or the whole cycle of SRL (Zimmerman, 1989) during the apprenticeship.</p>		
<p>Level of abstraction: Concrete problems for students, in which a problem is considered as a difficulty to that needs a solution. The perceived problems for students may be named by the students, supervisors, and practical trainers. No general evaluations of the saying in the interviews.</p>		
M: Indirect and negative feedback, and feedback not related to goal	M1: Indirect feedback	“It always helps a lot if you get your feedback immediately instead of later in the day or a day later.” (Student 5)
	M2: Feedback not related to goal	“Sometimes you have feedback like, ‘You did a great job’. Then my learning goal does not apply, but I do get something out of it.” (Student 4)
	M3: Negative feedback	“Feedback does not work for me anyway if it is too negative, but it works in a more supportive way. I am good at taking out the negative, so I am not necessarily processing the feedback. A supportive way is very nice for me.” (Student 5)
N: Lack of time	N1: A lack of time for supervisors to give feedback to students	<p>“I ask supervisors to fill in feedback forms but then I do not get them back. Usually, I ask for it, and then I hear that they forgot to. Eventually, you get it back. But sometimes that really takes a while. That is just because of the workload. Yes, that is annoying sometimes.” (Student 1)</p> <p>“It can always be more, but [the supervisor] is very busy, so I really don’t blame her.” (Student 2)</p> <p>“You are working on your assignment today and four days later you still have not received any feedback, you have not yet been able to sit with your supervisor, at school it is also the question of whether the teacher has time for you or not.” (Student 4)</p> <p>“Yes, there is too little time there anyway, yes.” (Student 4)</p> <p>“Once again there is a very high workload and little time to sit with a student for feedback.” (Supervisor 2)</p> <p>“If feedback is requested, this is put on paper, and you notice that there is little time to discuss the feedback with the student.” (Supervisor 2)</p>
	N2: A lack of time for colleagues to give feedback to students	“I have worked with a physiotherapist and have been in contact by email and I want to ask him for feedback. He only works on Wednesdays and my time for the command meanwhile continues: ‘I don’t have time for that’.” (Student 4)

	N3: Lack of time to ask for feedback	<p>"And freeing up time during working hours [for asking for feedback], yes, that just remains difficult." (Student 1)</p> <p>"You always start with a transfer in the morning. This moment is messy: everyone walks in, it is very hectic. [...] Then you walk together to the department and students should then ask: 'Do you have 5 or 10 minutes left for the feedback?' So that your colleague knows what to look out for." (Practical trainer 1)</p>
O: Unsafe feedback culture	O1: Addressing colleagues unpleasantly	<p>"Addressing colleagues in a normal way when something is not going well... At first, we had some trouble with that in the team." (Student 2)</p> <p>"Once I get unsatisfactory: that gives me panic, I can't stand it. I got angry then and didn't want to change anything. The supervisor had given harsh feedback." (Student 4)</p>
	O2: Asking "too much" feedback	"On top of that, I had also asked my supervisor a whole series of questions because she was sick, and I finally spoke to her again and she came to me for a few days saying that she is worried because I ask so many questions." (Student 3)
	O3: Feelings of guilt	<p>"You do not want to feel intrusive either." (Student 4)</p> <p>"I feel like I am bothering my colleagues all the time." (Student 4)</p> <p>"And that is what it makes it so difficult, sometimes. That students feel guilty when it is too busy, or that they do not dare to ask for feedback. They just quietly continue their business." (Practical trainer 4)</p>
	O4: Feeling judged	<p>"Asking for feedback is always difficult in healthcare because you feel a bit judged about you but that is something we are constantly working on to improve." (Practical trainer 1)</p> <p>"In the beginning, I'm really not going to tar them all with the same brush, but they feel attacked while receiving feedback." (Practical trainer 4)</p>
P: Feedback (forms) not useful	P1: Not finding feedback useful	<p>"I must remember myself to ask for feedback, which I find difficult and nonsense because I have been working in healthcare for so long. Then colleagues also say to me: 'Why do you have to ask that because you already know all that?'" (Student 1)</p> <p>"Feedback was not necessary. If you do not ask for feedback, you cannot continuously improve yourself or look at things differently. Well, then finally she got one more chance. For three days she had collected feedback from colleagues and on the fourth day she said: 'Well, I will stop doing this. I can ask for feedback now; you can see it and I am doing my best'. Then I think there is still so much to do." (Practical trainer 4)</p>
	P2: Not finding feedback forms useful	"When you have to hand in so much feedback forms a week, you sometimes do not know what to do or how you want to do it. Then you just run with things that are not interesting or do not necessarily help you." (Student 5)
Q: Lack of staff	Q1: Lack of staff	"We have a third-year student who is also tasked with supervising students, and she is also there for a longer period. I can ask for her feedback. We also have a nurse, so I can ask her that too, because she also knows a lot about it. It was less for a while, then I only had my supervisor. Then I hardly saw her either, so that was different. [...] Well, yes, no, then that's a pity. If things at work are not properly arranged in terms of staffing and you only put students down." (Student 2)

		<p>“Yes, rarely [receiving direct feedback], I think, yes, there is not much to see because nobody sees what I do.” (Student 3)</p> <p>“I worked with temporary workers for the first few months, and they can hardly tell me anything about the work in the department, they do not even know that themselves. They can tell you something about practical things, such as nursing technical things or a certain approach to practical matters. In that respect, the period is very brief when someone gets something. And that has already happened to a few people and for the rest you are kind of left to your own devices.” (Student 3)</p>
R: Students do not ask for feedback	R1: Students do not ask for feedback	<p>“That students do not always ask for feedback. That is really something I often have to offer myself, like: ‘Hey, can I give you feedback on that?’ and then the answer is always ‘Yes’.” (Supervisor 1)</p> <p>“Only rarely happens that the student asks for feedback.” (Supervisor 2)</p>
S: Supervisors lack in feedback giving skills	S1: Supervisors lack of feedback giving skills	<p>“In the workplace, we see that not all work supervisors are equally skilled in supporting the student when asking for feedback.” (Practical trainer 3)</p> <p>“A supervisor indicated that she also finds it difficult to give feedback. Then it is up to me to support that person, or a colleague, in this case.” (Practical trainer 4)</p>

Appendix H
Prototype of the Manual

The background features several abstract, colorful shapes and lines. At the top, there is a light green semi-circle on the left and a magenta shape on the right. A thin, wavy magenta line starts from the left edge and curves upwards. In the middle, there is a light purple shape on the left and a light pink semi-circle on the right. At the bottom, there is a light pink shape on the left and a yellow shape on the right. A thin, wavy magenta line starts from the left edge and curves downwards.

HOW TO GUIDE STUDENTS IN THE ROLE OF THE REFLECTIVE PRACTICE PROFESSIONAL

DAILY STAND-UP AND CLOSING

Hi supervisor

WELCOME TO THE MANUAL ON HOW TO GUIDE STUDENTS IN THE ROLE OF THE REFLECTIVE PRACTICE PROFESSIONAL

We strongly value the CanMEDS roles, which serve as a guide for our work and professional growth. Among these roles, the reflective practice professional holds great importance. As a reflective practice professional, you play a vital role in achieving our set goals, providing valuable feedback to your colleagues, and engaging in self-reflection to enhance your own performance. By actively embracing this role, we can draw valuable lessons from our experiences, adapt to the ever-changing dynamics of eldercare, and effectively navigate its complexities.

With the increasing demand for healthcare services that cater to the diverse needs of individuals with multiple chronic conditions, cognitive impairments, and functional limitations, it is crucial to equip our students with the necessary skills and knowledge to excel as reflective practice professionals. However, they cannot accomplish this alone; they need your support and guidance to flourish as caregiving professionals. Together, we can foster a nurturing environment that encourages growth, learning, and compassionate care for our elderly patients.

01

Introduction

What is the reflective practice professional and why is it important for you to guide students in this role?



02

Approach

You are going to learn how to guide students in the role of the reflective practice professional during a daily stand-up and closing.



03

Implementation

How can you implement the daily stand-up and closing in your department?



01

Introduction

What is the reflective practice professional and why is it important for you to guide students in this role?

The reflective practice professional is responsible for achieving formulated learning goals, asks for/gives feedback to others, and self-reflects on own actions and functioning. In this way, the professional learns from unique experiences, and can adapt the learned in a new healthcare situation.

Learning goals

It is crucial for students to take ownership of their learning process and actively strive towards their learning goals. By setting specific and challenging goals, such as SMART goals (specific, measurable, attainable, relevant, and time-bound), students become more motivated and engaged in their learning journey, leading to improved learning outcomes.

As a supervisor, you guide students in formulating SMART goals for better learning outcomes. Use their goals to understand their aspirations, motivations, and interests, and provide tailored support to help them achieve meaningful goals.

Feedback

Students should give, ask for and receive feedback. Feedback helps students to understand their performance, make improvements, and achieve desired outcomes. Feedback is most effective when provided on specific learning goals immediately after the performance.

You provide feedback on students' performance, gaining insights and identifying areas for improvement. Encourage students to seek feedback from peers and colleagues to enhance communication and collaboration within the department.

Self-reflection

Students enhance their learning through self-reflection, analyzing their experiences in a healthcare situation and applying newfound knowledge to different healthcare situations.

You play a vital role in guiding students through the self-reflection process using the STARRT method (Situation, Task, Action, Result, Reflection, Transfer). You gain valuable insights into students' strengths, challenges, and learning needs, enabling you to provide targeted guidance.

02

Approach

You are going to learn how to guide students in the role of the reflective practice professional during a daily stand-up and closing.

You are going to give students the space and time, and guide students to structurally act in the role of the reflective practice professional.

You guide a daily stand-up session from 8:00 to 8:15 at the beginning of the working shift, and a daily closing session from 15:30 to 15:45 at the ending of the working shift. In these sessions, you guide the caregiving students that work on the department that day. In the daily stand-up, you guide students in setting learning goals and promote feedback. In the daily closing, you guide students in self-reflection. Both sessions have the same structure: five minutes of individual thinking, five minutes of group discussion, and a plenary closing.

Daily stand-in: Goalsetting and promoting feedback

8:00 - 8:05: Individual thinking

8:05 - 8:10: Group discussion

8:10 - 8:15: Plenary closing

Daily closing: Self-reflection

8:00 - 8:05: Individual thinking

8:05 - 8:10: Group discussion

8:10 - 8:15: Plenary closing

Individual thinking

Students think and/or write down their goalsetting and self-reflection individually.

Group discussion

Together with the group of students, you discuss the learning goals and self-reflection students set. You promote to ask for and give feedback.

Plenary closing

You summarize the key takeaways and give positive feedback towards the learning process of the students.

03

Implementation

How can you implement the daily stand-up and closing in your department?

YOU ARE GOING TO IMPLEMENT THE DAILY STAND-UP AND CLOSING IN YOUR DEPARTMENT IN THREE PHASES THAT INCREASE IN COMPLEXITY. EACH PHASE IS THREE WEEKS.

Students face difficulties in documenting their learning processes, such as writing down learning goals and self-reflection. However, it is important to teach them so, as this is a needed quality for a caregiving professional. You are going to guide students from thinking about their goalsetting and self-reflection to writing down their goalsetting and self-reflection in a SMART and STARRT way.

Phase 1: Thinking along

In the first three weeks, you guide students in thinking about their goalsetting and self-reflection.

Phase 2: Documenting in free form

In the second three weeks, you guide students in writing down their goalsetting and self-reflection in free form.

Phase 3: Documenting SMART and STARRT

In the third three weeks, you guide students in writing down SMART goals and STARRT self-reflection .

What is a SMART goal?

A SMART goal is a specific, measurable, attainable, relevant, and time-bound goal. It is an effective framework for setting clear goals and increasing motivation and success in achieving them.

What is a STARRT reflection?

A STARRT reflection is a structured approach to self-reflection that includes considering the Situation, Task, Action, Result, Reflection, and Transfer of a learning experience. Using the STARRT reflection method helps individuals thoroughly analyze their learning experiences, apply their knowledge to different situations, and grow personally through reflection.

03

Implementation

Phase 1: Thinking along

FOLLOW STEP 1 TILL STEP 6 THE FIRST THREE WEEKS OF TRIAL, EVERY WORKING SHIFT WITH THE STUDENTS AVAILAIBLE AT YOUR DEPARTMENT. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1

Daily stand-in - Goalsetting and promoting feedback

8:00 - 8:05 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What do you want to learn or achieve today?". Give students two minutes in silence to think about the question. After two minutes, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if....

students do not feel comfortable with thinking in silence.

Acknowledge and respect their discomfort by providing alternative options. For example: writing down answers or engaging in brief discussions with peers.

students show resistance. Emphasize the importance of setting goals for personal growth and development. Provide examples or prompts to inspire students.

students do not want to share their learning goals with the group.

Create a safe and non-judgemental environment where students feel comfortable sharing. For example, assure that their goals will be respected and that sharing can lead to valuable insights and support from their peers. If students choose not to share, respect their decision. Emphasize that sharing is optional and the focus is on individual growth and progress.



Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 Group discussion

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

Questions to guide you through the group discussion

1. How do the learning goals of these two students relate to the assignments and competences you are now working on?
2. What are specific tasks or activities in the assignments that can help these students to achieve their learning goals?
3. Which skills or knowledge areas in the competences connect to the students' learning goals?
4. How can these students use the assignments to improve the competences they are targeting?
5. What extra resources or support do these students need to succeed in their learning goals within the assignments and competences?
6. What challenges might these students face, and how can we address them?
7. What strategies can these students use to maximize their learning and progress in the assignments and competences?
8. What are the opportunities for collaboration or learning from peers that can benefit these students?
9. How can the supervisor or colleagues guide and support these students as they work on their learning goals in the assignments and competences?

What should you do if....

you do not know which assignments and competences are relevant for students. You are always allowed to keep the relevant apprenticeship assignment book including competencies with you. Acknowledge your own limitations and express openness to learning together with the students. Encourage the students to share their understanding of relevant assignments and competences, creating a collaborative learning environment. For example, ask Question 1.



the group of students does not engage in the group discussion.

Offer the questions above to kickstart the discussion. Share potential assignments or competences and ask students for their opinions or suggestions. This can serve as a starting point to build upon and generate their own ideas. If the whole group discussion is not productive, you can divide the students into smaller groups to foster more active participation. This allows for more focused discussions and give each student a chance to contribute.

Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 *Plenary closing*

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

Take these steps to close the daily stand-up plenary

1. Begin by expressing appreciation

Begin by expressing appreciation for the students' participation and willingness to share their learning goals with the group.

2. Summarize the learning goals

Summarize the main learning goals that were discussed during the group discussion, emphasizing their relevance to the assignments and competencies.

3. Recap beneficial strategies

Recap any specific tasks, activities, or strategies that were identified as beneficial for achieving the learning goals within the given context.

4. Address challenges

Address any challenges or obstacles that were raised during the discussion, and briefly discuss possible solutions or approaches to overcome them.

5. Promote feedback

Remind students of support and guidance available from the supervisor, their peers and colleagues by encourage students to seek feedback from their supervisor, peers and colleagues as they work towards their learning goals.

6. Conclude with encouragement

Conclude the plenary closing by encouraging students to keep their learning goals in mind as they continue their day, while expressing confidence in the students' ability to make progress towards their learning goals.

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily closing, check how everybody is doing, and remind them of their role as reflective practice professionals: we self-reflect on own actions and functioning. Ask students the question: "What did you learn today related to your goal, and what feedback did you receive?". Give students two minutes in silence to think about the question. After two minutes, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....

students do not feel comfortable with thinking in silence.

Acknowledge and respect their discomfort by providing alternative options. For example: writing down answers or engaging in brief discussions with peers.

students show resistance. Emphasize the importance of self-reflection for personal growth and development. Provide examples or prompts to inspire students.

students do not want to share their self-reflection with the group.

Create a safe and non-judgemental environment where students feel comfortable sharing. For example, assure that their self-reflection will be respected and that sharing can lead to valuable insights and support from their peers. If students choose not to share, respect their decision. Emphasize that sharing is optional and the focus is individual growth and progress.



Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

STARRT questions to lead the group discussion

S
situation

Ask students to describe a caregiving situation.

T
task

Let students describe what goal they wanted to achieve and how.

A
actions

What actions did the students take to achieve their goal? What priorities did they set? What knowledge and skills did they apply? What attitude did they show?

R
results

What was the ultimate result of their actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result? What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are students (un)satisfied with their results? What would they do differently next time?

T
transfer

How can students apply the activities in similar and more complex situations?



What should you do if....

the group of students does not engage in the group discussion.

Offer the STARRT questions above to kickstart the discussion. If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide the STARRT prompts, and all students give an answer related to their experience.

Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

Take these steps to close the daily stand-up plenary

1. Begin by expressing appreciation

Start by expressing appreciation for the students' participation and willingness to engage in self-reflection. This sets a positive tone and reinforces the value of their contributions.

2. Summarize the self-reflection

Summarize the key points and themes that emerged during the group discussion. This recap ensures that everyone is on the same page and helps to reinforce the takeaways from the individual reflections.

3. Highlight commonalities and differences

Highlight commonalities and differences among the self-reflections shared by the students. This helps to create a sense of connection and allows students to see that they are not alone in their experiences and challenges.

4. Recognize notable contributions

Acknowledge and recognize notable contributions made by students during the group discussion. This can include insightful observations, valuable perspectives, or helpful suggestions that emerged from the conversation.

5. Reflect on the overall learning process

Guide a brief reflection on the overall learning process, emphasizing the growth and development that occurred through self-reflection and group interaction. This reflection encourages students to recognize their progress and the value of sharing and discussing their experiences.

6. Conclude with encouragement

Conclude the plenary closing by encouraging students to continue to grow in the role of the reflective practice professional and apply the insights gained from self-reflection and group discussion.

03

Implementation

Phase 2: Documenting in free form

AFTER COMPLETING THE FIRST PHASE, IT IS NOW TIME FOR PHASE 2: DOCUMENTING IN FREE FORM. STUDENTS WILL NOW LEARN TO DOCUMENT THEIR GOALSETTING AND SELF-REFLECTION IN FREE FORM, WHERE YOU GUIDE THEM. FOLLOW STEP 1 TILL STEP 6 EVERY WORKING SHIFT WITH THE STUDENTS AVAILAIBLE AT YOUR DEPARTMENT FOR THREE WEEKS OF TRIAL. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1

Daily stand-in - Goalsetting and promoting feedback

8:00 - 8:05 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What do you want to learn or achieve today? Please write down your answer on a paper. You can express yourself in free form." Give students five minutes or less in silence to think about the question. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if....

students only take a few seconds to write down an unspecific goal/struggle with writing down a goal. Encourage students to take a little more time to write down a learning goal. Emphasize the importance of setting specific and meaningful goals that can guide their learning process. Provide SMART examples or prompts to help students clarify their goal.



What do you want to achieve?



When is the goal achieved?



Is the goal possible to achieve?



Is the goal relevant for your grow?



When do you achieve your goal?

Example: Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 *Group discussion*

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 *Plenary closing*

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students the question: "What did you learn today related to your goal and what feedback did you receive? Please write down your answer on a paper. You can express yourself in free form." Give students five minutes or less in silence to think about the question. After five minutes or less, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....



students only take a couple of seconds to write down their self-reflection superficially (for example: logging instead of self-reflection). Encourage a deeper level of reflection. Show students the STARRT questions or ask students to elaborate further on their insights and feedback received. This will help students delve into a more meaningful and thoughtful analysis of their experiences.

students appear to be staring blanky or confused. Provide just-in-time the STARRT questions to guide students in self-reflection. Suggest key points to consider or offer examples to stimulate their thinking and facilitate the writing process.

STARRT questions to show students

S
situation

In what situation did you learn today?

T
task

What was your learning goal of today? How did you want to achieve this?

A
actions

What actions did you take to achieve your goal? What priorities did you set?
What knowledge and skills did you apply? What attitude did you show?

R
results

What was the ultimate result of your actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result?
What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are you (un)satisfied with your results? What would you do differently next time?

T
transfer

How can you apply the activities in similar and more complex situations?

Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

STARRT questions to lead the group discussion

S
situation

Ask students to describe a caregiving situation.

T
task

Let students describe what goal they wanted to achieve and how.

A
actions

What actions did the students take to achieve their goal? What priorities did they set? What knowledge and skills did they apply? What attitude did they show?

R
results

What was the ultimate result of their actions? How did the care recipient/family members react to the result? How did their peers/supervisors/colleagues respond to the result? What did the students report about these activities?

R
reflection

What went well already, and what can be improved? To what extent are students (un)satisfied with their results? What would they do differently next time?

T
transfer

How can students apply the activities in similar and more complex situations?

What should you do if....

the group of students does not engage in the group discussion.

Offer the STARRT questions above to kickstart the discussion. If the group still does not engage, consider adjusting the format of the discussion. It could be a brainstorming session, an approach where each student takes turns sharing their reflections, or a guided discussion where you provide the STARRT prompts, and all students give an answer related to their experience.



Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

You can use the guidelines and tips from Phase 1, Step 6 here again

03

Implementation

Phase 3: Documenting SMART and STARRT

AFTER COMPLETING THE SECOND PHASE, IT IS NOW TIME FOR PHASE 3: DOCUMENTING SMART AND STARRT. STUDENTS WILL NOW LEARN TO DOCUMENT THEIR GOALSETTING AND SELF-REFLECTION IN THE SMART AND STARRT WAY, WHERE YOU GUIDE THEM. FOLLOW STEP 1 TILL STEP 6 EVERY WORKING SHIFT WITH THE STUDENTS AVAILAIBLE AT YOUR DEPARTMENT FOR THREE WEEKS OF TRIAL. AFTER THREE WEEKS THERE WILL BE AN EVALUATION MOMENT TO CONSIDER THE IMPACT OF THE DAILY STAND-UP AND CLOSING, AND IF EXTENSION OF THIS PHASE IS NEEDED OR STUDENTS ARE READY TO CONTINUE WITH THE NEXT PHASE. THIS WILL BE FURTHER EXPLAINED IN CHAPTER 4.

Step 1

Daily stand-in - Goalsetting and promoting feedback

8:00 - 8:05 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Ask students to write down individually their SMART goal of the day, using the Writing a SMART goal worksheet on the next page. Students write down their learning goal in five minutes or less. After five minutes or less, ask whether two students want to share their learning goal with the group or choose two students.

What should you do if....

students experience difficulties with the worksheet. Provide additional explanations and examples to clarify the purpose of SMART goals and how to use it effectively. Offer guidance on each or a specific section of the worksheet.

students show resistance and do not complete the worksheet.

Encourage students to at least write down their learning goal in any format they are comfortable with. Explain the benefits of having clear learning goals and how it can enhance their learning experience. Additionally, provide examples or prompts to help stimulate their thinking and inspire goalsetting.

students feel pressed for time to complete the worksheet. Offer flexibility by providing a shorter or simplified version that allows them to write down their learning goal. The focus should be on capturing the essential SMART goal, even if it means a more concise format.



Worksheet

Formulating a SMART goal



What do you want to achieve?



When is the goal achieved?



Is the goal possible to achieve?



Is the goal relevant for your grow?



When do you achieve your goal?

Example: Today, I am going to ask at least one colleague for feedback so that I grow in the role of the reflective practice professional.

My SMART goal of the day

Today, I am going to learn/achieve _____.

I do this by _____.

with the help of _____.

so I develop in _____.

Step 2

Daily stand-in - Goalsetting and promoting feedback

8:05 - 8:10 *Group discussion*

Facilitate five minutes of group discussion, where you and the group of students try to link the learning goals of the two students to relevant assignments and competences.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 3

Daily stand-in - Goalsetting and promoting feedback

8:10 - 8:15 *Plenary closing*

Close the daily stand-up plenary by repeating the learning goals of the two students, and giving positive feedback towards the learning process of the two chosen students. Promote students to ask for and give feedback today.

You can use the guidelines and tips from Phase 1, Step 2 here again

Step 4

Daily closing - Self-reflection

15:30 - 15:35 *Individual thinking*

Welcome all students to the daily stand-up, check how everybody is doing, and remind them of their role as reflective practice professionals: we set goals, and are responsible for achieving them. Give students five minutes or less, in silence, to write down their self-reflection, using the simplified version of the STARRT form that can be found on the next page. After five minutes or less, ask whether two students want to share their self-reflection with the group or choose two students.

What should you do if....

students experience difficulties with the form. Provide clear explanations and examples of the STARRT method. Offer step-by-step guidance on one or each section and clarify any confusing instructions or terminology.

do not complete the form. Encourage students to still engage in self-reflection by writing down their thoughts and observations in any format they find comfortable. Emphasize the importance of reflecting on their actions and functioning, even if they do not follow the specific worksheet structure.

students feel pressed for time to complete the form. Be flexible and allow for a shorter reflection period or provide a condensed version of the form. For example, let students only fill out the questions corresponding to Situation and Task. Explain that students can further discuss Action, Result, Reflection, and Transfer in the group discussion. The focus should be on encouraging students to engage in meaningful self-reflection, even if it means adapting the time or format to accommodate their needs.



Step 5

Daily closing - Self-reflection

15:35 - 15:40 *Group discussion*

Facilitate five minutes of group discussion, where you and the group discuss the self-reflection of the two students.

Step 6

Daily closing - Self-reflection

15:40 - 15:45 *Plenary closing*

Close the daily closing plenary by repeating the key takeaways of the group discussion and giving positive feedback towards the learning process of the students.

Worksheet

Simplified version of the STARRT form



In what situation did you learn today?



What learning goal did you want to achieve in that situation?



What actions did you take to achieve your goal?



What was the ultimate result of your actions?



What did you learn from the situation and actions?



How can you apply the activities in similar and more complex situations?
