



## Measuring the quality of teaching in Higher Professional Education with regard to active learning by means of the Impact! tool

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## *Foreword*

This thesis was written for my master's degree for Educational Science and Technology at the University of Twente. The research was conducted at Saxion, *Academie Mens & Maatschappij (AMM)* within the educational program 'Social Work'.

Because Saxion's educational program 'Social Work', is facing a transition from more traditional forms of education to activating education, it is important to obtain insight into teachers' teaching skills with regard to activating learning. Therefore, the aim of this study was to develop an evaluation instrument to measure by means of student perceptions the quality of activating teaching skills among teachers of the *Academie Mens & Maatschappij* at Saxion.

Writing this thesis was a long, but very challenging and fascinating process. Because I conducted the research in my own work situation, writing this thesis contributed to teacher development in preparation for the implementation of the curriculum based on the idea of active learning, in which I am closely involved as an educational scientist.

I would like to thank prof. Adrie Visscher and drs. Hannah Bijlsma for their guidance and support during the research and the writing of my thesis. Their advice and feedback throughout the whole research period helped me to make it a thorough research project, of which I am proud.

### **Summary**

Keizer, D.M. (2020). *Measuring the quality of teaching in Higher Vocational Education with regard to active learning by means of the Impact! Tool*. Master thesis Faculty of Behavioral Science, master Educational Science and Technology. Enschede: University of Twente.

There is a fundamental and global change as it comes to how humans produce, consume and interact with each other (WEF, 2016; 2018). There are technological, demographic and economic developments that lead to transformation in a large number of professions in the future. This leads to changes in the way students need to be educated and prepared for their future profession (Chun, 2013).

In addition to the discipline specific knowledge and skills in the curriculum, it is expected that more generic skills will be important for future professionals. An example of such a generic skill is the student's learning ability that can be described as an active and self-regulating learning ability (WEF, 2016).

In order to stimulate the active learning ability, Saxion, is making a transition towards more activating forms of education. For this transition to succeed it is important for teachers to obtain insight into the quality of their teaching skills with regard to active learning. For the purpose of measuring, and to obtain valuable feedback about teaching quality, Student Evaluations of Teaching (SET's) can be used as a powerful tool (Hammonds et.al., 2017)

The goal of this study was to determine which items with regard to active learning in higher vocational education need to be included in a tool that can be used by teachers to evaluate the quality of their teaching by means of student perceptions with respect to the active learning of students?

For this research, a multiple stage mixed-method design was used. In the first phase a literature review was performed to define important teaching skills in active learning. The second phase was a focus group in which, participants with expertise of active learning, evaluated the first version of the instrument to determine the relevance and formulation of the items. In the third phase interviews with students were conducted in which the second version of the instrument was discussed to see if students interpreted the items correctly. The fourth phase was a digital survey that was filled out by teachers, school policy-makers and a school manager with expertise of active learning, to determine the Content Validity Ratio (CVR) using the Lawshe research technique described by Wilson, Pan and Schumsky (2012).

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The third version of the instrument proved to include eleven items that were found to validly measure teaching quality with regard to active learning that can be used by teachers to evaluate the quality of their teaching by means of student perceptions with respect to the active learning of students.

## *Introduction*

There is a fundamental and global change as it comes to how humans produce, consume and interact with each other (WEF, 2016; 2018). There are technological, demographic and economic developments that lead to transformation in a large number of professions in the future. The vast majority of children now attending primary school will have jobs that do not yet exist. Situations are becoming more complex on both global and local level (WEF, 2016). This leads to changes in the way students need to be educated and prepared for their future profession (Chun, 2013).

In addition to the discipline specific knowledge and skills in the curriculum, it is expected that more generic skills will be important for future professionals. An example of such a generic skill is the student's learning ability that can be described as an active and self-regulating learning ability (WEF, 2016).

In order to stimulate the active learning ability, a transition from more traditional forms of education to more activating forms of education is needed (Assen, 2018).

Therefore, it is important to look at required teaching skills of teachers for activating forms of education. In addition to practical and organizational aspects by implementing active learning, Bakker and Deinum (2002) mention that one need to pay attention to the changing role of the teachers and the required teaching skills. For a successful transition from traditional forms of education to more activating forms of education, teachers need to be informed, trained and guided in their teaching skills regarding active learning (Bakker & Deinum, 2002).

The aim of this research is to examine the concept of active learning and to develop an evaluation instrument with which the quality of activating teaching skills can be evaluated. The evaluation instrument will be developed as a student evaluations of teaching (SET) instrument. The student ratings of teachers' teaching quality with regard to active learning can provide teachers with insights into where to improve their teaching skills (Dolmans, Stalmijer, & Wolfhagen, 2006).

In order to develop this student evaluation instrument the following research (sub-) questions are answered in this thesis:

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### Research (sub)questions

#### **Main research question:**

Which items with regard to active learning in higher vocational education need to be included in a tool that can be used by teachers to evaluate the quality of their teaching by means of student perceptions with respect to the active learning of students?

#### **Sub research questions:**

1. Literature review
  - Which theoretical concept(s) should be operationalized how with the items in the instrument in order to measure teaching quality with regard to an active student learning approach within higher vocational education?
2. Focus groups and interviews
  - Which items should be adapted and adjusted according to Saxion teachers, school policy-makers, school managers and students, in the instrument to evaluate teaching quality with regard to active learning of students in higher vocational education?
3. Digital Survey
  - What is the content validity of the designed evaluation instrument?

### Scientific & practical relevance

While most SETs for measuring the quality of teaching are related to traditional forms of teaching or are not suitable for higher vocational education, this research is expected to contribute to a better understanding of the activating teaching skills that teachers need to possess, and to measure the current quality of these skills.

Because research has shown that students are a reliable and valid source if it comes to giving their student opinion, as they can hardly be influenced due to undesirable effect, they seem to be an important source if it comes to giving information about the quality of teaching (Dolmans et.al., 2006).

This research will be conducted at Saxion in Enschede within the educational program ‘Social Work’ of the *Academie Mens en Maatschappij*. This educational program currently makes the transition towards an ‘active learning’ teaching approach. This research is related to this transition.



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For a successful transition, it is important to obtain insight into the quality of teaching skills with regard to active learning among teachers from the educational program. Obtaining insights into the quality of teaching skills with regard to active learning contributes to the accountability and quality of the educational program. This makes it possible to justify the choices made, for example when it comes to the employability of the teachers within the program as well as the choices within the teacher's development plan. In this way teachers, managers, school leaders and policy makers in education are able to strive for the highest possible result and to be accountable to the government and the users: the students.

By using this student evaluation instrument, teachers can evaluate their 'active learning' teaching quality. Based on the results of the evaluation they are able to adapt the lessons based on the student's feedback and improve themselves if it comes to carrying out the newly developed didactics in a form that activates students (Saxion Onderwijsmodel, 2019).

In the future, the evaluation instrument can be used as a formative assessment tool to continuously monitor the quality of teaching of all teachers. Based on the student feedback, teachers' teaching skills can be improved to activate students even more.

Because within Saxion, AMM is leading in redesigning the curriculum, it is to be expected that, if the evaluation instrument developed in this study contributes positively to the AMM program, then the evaluation instrument could also be used in other academies within Saxion.

### *Theoretical background*

For the development of the evaluation instrument, it is important to have insight into studies already carried out into relation to active learning. Which definition is used for active learning and which teacher skills are required and how does this contribute to the student's learning process? In addition, it is also important to look at previous research that has been carried out with regard to the use and development of SET's.

### **Active learning**

Because of the fundamental and global change in the way human beings will produce, consume and interact with each other, and the fact that situations are becoming more complex on both global and local level (WEF, 2016), it is important to look at necessary changes in the way students need to be educated and prepared for their future profession (Chun, 2013). Great attention in the curriculum for specific knowledge and skills alone is no longer sufficient to prepare students for their future labor market. Therefore, generic skills are becoming increasingly important, for example the student's learning ability that can be described as an active and self-regulating learning ability. (Van der Velden, 2011).

Current educational innovations promote active learning as meaningful and application-oriented (Vermunt, 2006). In this respect, both cooperation between and independent learning by students are also seen as important. These innovations are intended to ensure that what is learned persists better, but above all, this way of learning is better equipped to prepare students for lifelong learning (Vermunt, 2006).

But what is 'active learning'? According to Prince (2004), active learning is an overarching, didactic term with a focus on student activity and student engagement within the learning process. Activating learning is mainly based on constructivism as a learning theory. According to this theory, learning is seen as an active construction of knowledge by the learner and not as a passive process of absorbing knowledge (Bolhuis & Kluvers, 1998). Active learning is however not only supported by social constructivism, but also by brain research and empirical studies that have been done in recent years about teaching and how this affects learning (Prince & Felder, 2006).

Volman (2006), describes active learning as a form of education that makes it possible for students to transfer the lesson content to other contexts (Volman, 2006). In addition, it seems to give an answer to the question of how to ensure that students can transfer

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the lesson content in other situations. According to Volman, the use of activating learning can also be justified by means of constructivist learning theory (Volman, 2006).

Ebbens & Ettehoven define active learning as an interactive process in which the construction of knowledge and skills takes place in direct interaction with existing knowledge and information from the learner (Ebbens & Ettehoven, 2003). For this interactive process to occur, the development of metacognitive skills that are necessary for the acquisition and processing of new knowledge is required (Bakker & Deinum, 2002).

Teaching methods that are related to active learning, are instructional activities in which students are stimulated to work on mastering competencies and to think about what they are doing. This is why, according to Prince (2004), for activating education to work, a shift is necessary from a more teacher-centered approach towards a learner-centered approach (Prince, 2004). Roehl et al. (2013) agrees with this and claims also that if the aim of education is to ensure that students understand what they are learning, then it is necessary to move from teacher-driven learning to more learner-centered learning.

Volman (2006) mentioned in her study that in the course of time, learning has become increasingly separated from what it should prepare students for, namely participation in society. The meaning of learning has become less visible to students in recent years and that is not desirable. It is therefore important that current education takes a critical look at how more authentic learning can take place. According to Volman, this is twofold and relates, on the one hand, to the fact that learning must fit with the needs that students have to learn and, on the other hand, learning must take place much more in a context that clearly has something to do with the real world. This is also in line with previous educational innovators such as the reform educators Dewey, Vygotsky and Piaget who believed that learning should be much more learner-centered than material-centered (Volman, 2006).

While more research into different forms of active learning and the effects of active learning on the learning process of the students is necessary, there is evidence in favor of an active approach (Prince & Felder, 2006).

Another important reason for choosing active learning within higher vocational education has to do with student participation. Within higher education, the government places high demands on the way in which educational institutions, lecturers and students contribute to the demand of the labor market. In addition to working towards a high degree of study success and as many graduates as possible who are ready for the labor market with the

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idea of lifelong learning, increasing student participation is also a requirement (Zepke & Leach 2010).

Zepke & Leach (2010) investigated factors of the influence of active learning on student participation. In their research, they found that there is no agreement about which forms of active learning motivate students the best and has the most positive effect on the learning process of the students. However, they also claim that a constructivist view on learning such as active learning is the best way to achieve an increase of student participation and intrinsic motivation. For this to occur, students need to be owners of their own learning process. Concepts such as autonomy and feeling competent within this learning process are very important and are in line with active learning and a more learner-centered approach (Zepke & Leach, 2010).

In this study active learning is defined as a(n) (inter)active process of knowledge and skills construction that will enable students in making the transfer from lesson content to other (professional) contexts. A high degree of involvement and participation of the students in their own learning process is a prerequisite for this.

### **Quality of the teacher**

In developing a curriculum in which a transition is made from traditional education towards a curriculum in which active learning is central, it is important to look at the (changing) role of the teacher. Shulman and Shulman (2004) mention the following elements that are important for quality teaching in general but even more important when dealing with changes in the way in which education is offered. For example, a teacher must have a clear vision on education and the process of student learning. They should also have the motivation to invest in active learning didactics based on their vision. Finally, it is important to understand the educational concepts and principles with regard to active learning, because only then they can use them in day-to-day educational practice. By reflecting on this commitment and their teaching, they can learn from their own experiences (Vermunt, 2006).

To ensure that teachers are ready for implementing forms of active learning and to offer the quality as intended, it is first important to obtain more insight into what teaching skills are required if it comes to active learning. As Hammonds et.al., (2017) mentioned, one of the most important aspects of the quality of the education offered, is the quality of the teacher who provides that education.

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But what are the characteristics of active learning and how does this affect teaching skills? When it comes to active learning, three characteristics are essential for activating forms of education, according to Struyven (2009). First of all, she mentions self-discovery learning in which self-study or group discussion is used. This is closely in line with what Piaget described earlier in a way with the term ‘discovery learning’. Students should have the opportunity for self-discovery learning and teachers should stimulate this.

A second aspect that Struyven (2009) mentioned is, that it is important to work as much as possible with authentic professional tasks that are complex in nature and an incentive to learn. According to Dochy, et. al. (2015) students need to be challenged during the educational program to obtain knowledge and skills. It is important to work with current practical issues and professional authentic tasks as much as possible, with an increasing level of interdisciplinarity and complexity. Authentic tasks give students the opportunity to obtain an idea of their own possibilities and expertise with regard to their future profession and what still needs to be learned. This helps to increase the intrinsic motivation and interest of the student (Dochy, et al., 2015). Winters (2010) agrees with the importance of working with authentic professional tasks, because, according to her, this makes it easier for students to see connections between later professional practice and the knowledge and skills they acquire at school.

This requires from teachers to have up to date knowledge of professional practice and to be able to share and use this knowledge when working with students.

A third aspect Struyven (2009), mentions in her research on the characteristics of active learning, is the role of the accompanying teacher who must be ready to offer help and tips if necessary as a coach, whereby stimulating, advising and supervising are used, where necessary, to promote the learning process (Struyven, 2009).

In their research Bakker & Deinum (2002) about activating didactics, and in particular, how teachers should indicate this, they found that teachers are no longer the ones who have to transfer subject matter to students, but more and more the ones who have to initiate learning activities and who can and should want to influence learning outcomes. According to them this also means that the role of teachers is fundamentally changing (Bakker & Deinum, 2002).

According to Bakker and Deinum (2002), an important condition for working with activating didactics is that there is an open, attitude and trust between the students and the teacher. It is important that the students feels at ease in their study group. This is important for accomplishing learning, regardless of the instructional form you

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choose. If you require students to be vulnerable during the learning process, then they have to experience safety, to be able to learn from mistakes. Teachers can support them in this by giving positive feedback and by establishing clear rules within the group. It is important that the students have the feeling that the teachers are interested in the students and that the teacher supports them in their learning process. This contributes to a safe learning climate (Bakker & Deinum, 2002).

Giving positive feedback that is focused on the learning process is important because it gives students the opportunity to learn, to develop and to work on a growth mindset. Making mistakes is necessary for learning but students also need success experiences because they give the student the feeling that he is competent and this motivates learning (Joosten & Van Laar, 2017). Positive feedback can contribute importantly to students' sense of competence and intrinsic motivation because this feedback supports their own successful way of working (Gagné & Deci, 2005).

The study by Zepke and Leach (2010) agrees with this and they also claim that if teachers show that if they are interested in students and that if they are sensitive to the needs of the students this contributes positively to student involvement (Zepke & Leach, 2010).

When it comes to activating didactics, Winters (2010) states that a safe learning climate can be seen as a precondition for learning. The degree to which students feel accepted in a group has a positive effect on their self-image and the degree to which students have a positive attitude towards education. This almost always leads to better performance and a higher intrinsic motivation of the student. Teaching in this context, is mainly about creating a learning climate that is stimulating and in which students are guided and coached in learning how to construct their own knowledge and skills (Winters, 2010).

In addition to the requirement that students dare to be active, Winters(2010) mentioned that the instructor must also ensure that opportunities are offered so that the students can be active. Teachers should be well prepared and should provide the necessary structures for learning, especially in the early stages of active education. The methods chosen should encourage meaningful learning and give students the feeling that what they are learning matters. By varying the assignments and chosen forms of work, you can ensure that students remain fascinated. Research shows that diversity in education has a positive effect on the motivation of students. (Winters, 2010).

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Within the educational program it is important that students have the freedom to make their own decisions and choices regarding working methods, because as mentioned earlier, this contributes to the feeling of autonomy and the involvement that students experience when it comes to their own learning process. It is the teacher's task to build this freedom of choice and decision-making, and to guide students in making these choices. By doing so, the instructor shows the students, among other things, that he considers them to be competent within their own learning process, which again increases students' confidence (Winters, 2010).

Gagné & Deci, (2005) agree that students need to feel autonomous if it comes to their learning process. Forms of education that promotes such autonomy of students with regard to their learning process also helps to enhance the intrinsic motivation of the student. In their Self-Determination Theory (2008), they mention that the more autonomous a student feels when it comes to his own learning process and the more the student wants to grow in this process, in which external pressure must be as low as possible, the more this leads to deeper information processing. The more the student accepts this self-direction and integrates it in his actions, the more this will have a positive effect on the intrinsic motivation of the student and his involvement in his own learning process (Ryan & Deci, 2008). This is very important because students need to be prepared for lifelong learning in which they must also continue to manage their own learning process on a permanent basis.

Because not every student is the same, it is important that there is the possibility to differentiate within the educational program. A rich learning environment and more blended learning can support this (Demedts et.al., 2015). The teacher's role is, as a guardian of this process but also as a challenger in this process (in addition to the student's own role) very important.

In the research of Winters (2010) it was indicated, that activating learning requires integration of the different learning outcomes within the educational program in which the coherence and structure of the educational program is comprehensible and clear to the students. Teachers must be able to give this clarity and structure because the more fragmented education is offered, the more complicated it is to achieve active learning. Cohesion and integration are very important in an educational program because when cohesion and integration criteria are met this has effects as it comes to the process of knowledge building and knowledge accumulation (Winters, 2010).

A last aspect that is important for active learning is that students are activated to work not only individually, but also collaboratively. Collaborative learning can play

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an important role in activating students, for example by allowing them to discuss, explain something to each other, or by comparing their own ideas with others. If collaborative learning is used, the assignments must be designed in such a way that everyone can have his/her own part in the assignment. There must be mutual dependence and every group member must feel individually accountable. The teacher must have the skills needed to ensure that collaborative learning is properly reflected in the lesson. This includes, for example, being able to keep an overview of the group, and to develop group-oriented assignments. (Winters, 2010).

### **Student evaluations of teaching (SET)**

To obtain valuable feedback about teaching quality, student evaluations of teaching (SET) are often used. SET's can be used both as a summative and as a formative assessment (Hammonds et.al., 2017). It can give teachers insight into their teaching skills as a basis for developing their teaching practice.

According to McDonald (2013), the use of SETs can improve the quality of a teacher's lessons, and it also supports the professionalization of teachers.

Hayes (2006) mentioned that it is important that opportunities for professional development are offered because it helps teachers to feel encouraged and supported by their educational institution (Hayes, 2006).

Using the SET can help by implementing educational changes such as the transition towards active learning, because based on information that is gathered with the SET, teachers are able to monitor themselves when they apply new teaching methods. Based on the outcomes teacher are able to ask for more specific professional support if necessary. In this way a SET contributes to a learning climate among teachers (McDonald, 2013).

Richardson (2005) agrees that a SET can give diagnostic feedback to teachers and that based on this feedback a teacher can learn about the effectiveness of their teaching skills. According to Richardson (2005), the feedback mostly reflects students' ratings of their level of satisfaction. Therefore, for the development of the SET, mostly a standard questionnaire is developed, in which the student responses are processed automatically, and the resulting feedback is sent directly to the teacher. This is important to keep in mind because this way the use of the SET is not only effective but also efficient. Using the SET as a standard questionnaire which has the possibility for automatically processing is relatively swift, simple and convenient, for both students and teachers (Richardson, 2005).



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According to Hammond (2017), it is important for the development of SETs that they are developed institution-specifically, because they then best fit the measurement needs of the institution. This leads to more relevant data for the teachers in this institution. In addition, it is important for the development of a SET that it is developed in cooperation with teachers, policy makers, managers and students in order to reflect the different perspectives on educational quality (Hammond, 2017).

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### ***Research method***

In this research, a multistage mixed-method design was used to answer the (sub-) research questions (Morse & Niehaus, 2016). Quantitative and qualitative data were collected in four phases: literature review, focus groups, interviews with students and a digital survey. In this section, the participants and the way the data was collected and analyzed are described for each of the four phases.

### **Literature review**

#### **Data collection**

For the literature review, scientific literature about active learning and existing questionnaires that measure active learning were found and reviewed, to answer the first sub research question of this study: Which theoretical concept(s) should be operationalized with the items in the instrument in order to measure teaching quality with regard to an active student learning approach within higher vocational education?

Key-terms that were used for searching relevant literature were: active learning, teacher development, student evaluations of teaching, higher professional development and teaching quality. The search was done by using Google Scholar as a search engine, which was accessible through the University of Twente online library.

#### **Data analysis**

Based on the results of the literature review, differences and similarities in the literature were examined. Existing questionnaires measuring teaching quality or active learning were compared.

As a result, a description of the most important elements of active learning was made. In order to arrive at an initial draft of the questionnaire, the components of active learning and the teacher behavior that is necessary for teaching quality with regard to active learning, were summarized and described.

Research about SETs and how to develop a SET, were used to determine how to design the Impact! questionnaire and main findings which are relevant to the purpose of this research were described.

Based on this research phase, the main findings from the theoretical background were described, by defining the items for the evaluation instrument for each of the three main elements (using professionally authentic tasks, provide a safe learning environment and the

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teacher as coach of the learning process), that were mentioned as relevant for measuring teaching quality with regard to active learning. This led to the first version of the instrument (see Appendix one) that was used in the following phase: the focus groups.

### Focus groups

#### **Participants**

To reflect the different perspectives on educational quality, teachers, school policy makers and school managers participated in the focus groups (Hammond, Mariano, Ammons, & Chambers, 2017). This way, the evaluation instrument was developed with input from experts within the field of 'Social Work' education.

In the focus group, seven teachers, one manager and three school policy makers within AMM participated., The participants were a representative sample of the teachers, school managers and school policymakers within AMM because of their different expertise of the educational program, but also because of the distribution of the number of participants of these three groups of experts.

For the selection of the participants a nonrandom technique, a purposive sampling procedure, was used. The researcher in this case chooses respondents based on several criteria (Etikan, Musa & Alkassim, 2016). These criteria were: teaching experience in the different grades of the educational program, knowledge of activating learning and experience in developing education.

#### **Data collection**

In the focus groups, teachers, school managers and school policy makers were asked to give feedback on the formulation and relevance of the items and to mention it if relevant teaching quality aspects with regard to active learning were missing that were needed to be included. At the beginning of the focus group, permission for audio recording was given by all participants.

The focus groups were organized in three rounds. In the first round, the participants were asked to write down what the five most important aspects to be measured, in terms of teacher quality in relation to active learning, are. They received a brief explanation. After they had described the five points, they were asked to put them aside for the time being and round two started.

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In round two, all items from the first version of the instrument were discussed one by one with the participants. For each item, the participants were asked to indicate to what extent the item was relevant for the purpose of the evaluation tool and was formulated well in their opinion.

In round three, the participants were asked to select five questions they would like to keep for sure in the instrument, and to select three questions that could be left out. Behind the items there was room to comment on their choices. After that, the participants were asked to take the notes of the first round. They were asked to indicate which of the aspects written down in round one, were missing in the discussion of the current instrument, and which they felt should be included in the evaluation instrument.

For a more detailed description of the focus group organization, see Appendix two.

### **Data analysis**

A lot of data were collected during the focus groups for the analyses. First, the handouts of the three rounds completed by the participants were collected. These have been viewed one by one and have been merged into a document in which all comments per round were described. Because during the focus group, in addition to the completed handouts, the participants also discussed with each other, it was also important to listen to the audio recording and to add additional data to the collected and described material from the handouts. Together this resulted in a detailed description with the main findings of the participants and recommendations for possible adaptation and improvement of the instrument.

If adjustment of one of the items was needed, based on the description of the main findings from the focus groups, then the new item was formulated supported by the explanation of why the item was adjusted. Decisions were made based on the results of the focus group and the knowledge from the first phase, the literature review. This led to the development of a second version of the instrument which was used in the third phase (see Appendix three).

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### Interviews

#### **Participants**

For the interviews, 'Social Work' students were asked to participate by sending them an invitation e-mail. Students from all four years of the educational program were e-mailed. This was important in order to make sure that the evaluation instrument is understandable and comprehensible for all students, and to make sure that the items are relevant in the different years of education. There was no response to the invitation e-mail. Therefore, a convenience sampling was conducted wherein students were personally asked to participate in an interview. Availability and willingness to participate were criteria that were used in the sampling procedure (Etikan et.al., 2016).

Nine students participate in the interviews (8 females and 1 male). One of the nine students had to end the interview before it was finished, due to lack of time. This interview was therefore not included in the processing of the data. The gender population within the educational program is not equally divided as there are more female than male students. The ratio male/ female was therefore no surprise and can be seen as a good representation of the student population within the program Social Work.

Of all participants, there are four students from the fourth year of the program, three from the second year of the program and one first year student. No third-year students participated due to the fact that the third year of study is an internship year and students are hardly present at Saxion. Of the students who participated, two students had dyslexia, one student had serious hearing problems, and two students followed Saxion's Honours Program in addition to the regular program.

#### **Data collection**

The interviews consisted of two rounds. In the first round, participants were asked to give feedback on formulation and to give their own interpretation of the items one by one.

After all items had been discussed with the participant, round two started in which the complete set of items was presented and overall questions were asked. The questions that were asked concerned whether aspects were missing or were irrelevant, the size of the instrument and the order of the items. Permission for audio recording was given by the students at the beginning of the interview. For a more detailed description of the content and organization of the interviews, see Appendix four.

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### **Data analysis**

During the interview, the interviewer used hand outs and audio recording for the collection of the interview data. After all the interviews with the students had taken place, a description was made of these handouts and audio recordings. For each round the answers to the different questions of the different participants were merged that led to a description of the main findings. If adjustment of one of the items in the instrument was needed, based on the main findings from the interviews, then the new question was described supported by the argumentation about why the item was adjusted. Decisions were made based on the results of the interviews, the focus group and the knowledge from the theoretical background.

Based on the results of the data analyses, a third version of the evaluation instrument was developed (see Appendix five). This third version was used in the fourth research phase: the digital survey.

### Digital survey

#### **Participants**

For the digital survey, 35 teachers, 4 school policy-makers and one school manager, from the educational program of Social Work were asked to participate.

The teachers and school policy makers who were asked to fill out the survey were all closely involved in the design and transition with regard to the active education concept and therefore can be seen as experts with regard to what active learning requires as it comes to teaching.

The teachers, school policy makers and school manager, received an invitation to fill out the survey voluntary. After they indicated that they wanted to fill out the survey, the third version of the instrument was sent to them digitally. Teachers, school policy makers and the school manager were selected via a purposive sampling procedure. This is a nonrandom technique whereby the researcher chooses respondents based on criteria (Etikan, et.al., 2016). For teachers, the school policy makers and the school manager the criterion was that they all had knowledge of active learning.

### **Data collection**

The evaluation instrument (see Appendix five) was sent to a large group of teachers, school policy makers and a school manager (using Qualtrics). The goal was to collect quantitative data about the content of the evaluation instrument. Participants were asked to assess the items on how essential they were by answering on a three-point scale: "essential," "interesting, but not essential" and "not important". Based on the data on the three-point scale from this survey, the Content Validity Ratio (CVR) can be calculated, using Lawshe research technique described by Wilson, Pan and Schumsky (2012).

### **Data analysis**

The data collected with the digital survey was entered into Excel. The formula that was used for calculating the CVR was:

$$CVR = \frac{n_e - (N / 2)}{N / 2},$$

where  $n_e$  is the number of participants indicating the item as “essential,” for measuring quality of teaching skills with regard to active learning and  $N$  is the total number of participants that participated in this research phase (Wilson, Pan, & Schumsky, 2012).

The result gives the proportion of the number of respondents who consider an item to be essential. The CVR ranges from -1.00, which means that respondents completely disagree about the extent to which the item is essential, up to 1.00, which means that the respondents completely agree about the extent to which the item is essential. The results were compared with the ‘critical values’ described by Ayre and Scally (2014), which indicate how many respondents have to show agreement in order to be able to speak of a content valid item. Of these critical values, research has shown that they are more reliable than those found by Lawshe and described by Wilson et.al.,(2012) who used critical values based on a normal distribution. Ayre and Scally (2014) made an addition to this and calculated the critical values based on exact binomial probabilities for expert groups that vary in size between 5 and 40 participants. The ‘critical values’ for groups of up to 30 participants are shown in Table 1.

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**Table 1.**

*CVR One-Tailed Test ( $\alpha = .05$ ) Based on Exact Binomial Probabilities.*

N (Panel Size)	Proportion Agreeing Essential	CVR Critical Exact Values	One-Sided p Value	$N_{critical}$ (Minimum Number of Experts Required to Agree Item Essential)—Ayre and Scally, This Article	$N_{critical}$ Calculated From CRITBINOM Function—Wilson et al. (2012)
5	1	1,00	0,031	5	4
6	1	1,00	0,016	6	5
7	1	1,00	0,008	7	6
8	0,875	0,750	0,035	7	6
9	0,889	0,778	0,020	8	7
10	0,900	0,800	0,011	9	8
11	0,818	0,636	0,033	9	8
12	0,833	0,667	0,019	10	9
13	0,769	0,538	0,046	10	9
14	0,786	0,571	0,029	11	10
15	0,800	0,600	0,018	12	11
16	0,750	0,500	0,038	12	11
17	0,765	0,529	0,025	13	12
18	0,722	0,444	0,048	13	12
19	0,737	0,474	0,032	14	13
20	0,750	0,500	0,021	15	14
21	0,714	0,429	0,039	15	14
22	0,727	0,455	0,026	16	15
23	0,696	0,391	0,047	16	15
24	0,708	0,417	0,032	17	16
25	0,720	0,440	0,022	18	17
26	0,692	0,385	0,038	18	17
27	0,704	0,407	0,026	19	18
28	0,679	0,357	0,044	19	18
29	0,690	0,379	0,031	20	19
30	0,667	0,333	0,049	20	19

Adapted from “Critical values for Lawshe’s content validity ratio”, by Ayre, C., & Scally, A.J., 2014, *Measurement and Evaluation in Counseling and Development*, 47, p. 79-86.

Because 27 experts filled out the digital survey, the critical value for the CVR in this research for all of the different items in the instrument is .407.

For the items with CVR values that do not meet the critical CVR value, and can therefore not be considered as content valid, a more extensive exploration has been carried out. The distribution of the scores over the three possible answers ("essential", "interesting, but not essential" and "not important") was examined and experts were asked to substantiate



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why they chose the answer options "interesting, but not essential" or "not important". This led to a description of the main findings for these not-content-valid items.

If adjustment or omission of an items in the instrument was needed, according to the main findings of the digital survey, this was described supported by the argumentation about why the item was adjusted or omitted.

Based on the results of the data analyses, a last version of the evaluation instrument was developed. This last version will be used in the pilot test that will take place after the completion of this research.

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### ***Results***

This section presents the results of the study. The data from each research phase have been analyzed and based on this the adjustments in the instrument have been described, with the aim to develop an evaluation tool that can be used by teachers to evaluate and improve the quality of teaching in relation to the active learning of students.

#### ***Phase 1 Theoretical background***

The research question that was answered in this phase of the research is:

- Which theoretical concepts should be included in the items of the evaluation instrument in order to measure teaching quality with regard to an active student learning approach within higher vocational education.

Based on research conducted and described in the theoretical background, it can be stated that if comes to active learning and the related teaching skills, three concepts are important in this respect:

- Teaching should take place with regard to professionally authentic tasks as much as possible;
- Teachers need to provide education in a safe learning environment;
- The role of the teacher as coach of the learning process is essential.

Within these concepts the following elements are important to measure:

#### **Teaching with regard to professionally authentic tasks**

- ❖ The teacher uses as many authentic professional assignments and tasks in the educational program as possible, in which close involvement with the professional field is arranged;
- ❖ The teacher gives the students insight in their own abilities with regard to the future profession and what they still need to learn in this respect by using professionally authentic tasks;
- ❖ The teacher uses professional authentic tasks because this contributes to the student's sense of meaningful learning;
- ❖ The teacher uses professional authentic tasks because this contributes to the extent to which students are able to see the relationship between the educational program and the professional practice.

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### **Provide education in a safe learning environment**

- ❖ The teacher offers opportunities for the students to experience successes within the educational program;
- ❖ The teacher gives positive feedback to students with regard to their learning process, because this gives students insight into their degree of competence and stimulates them in their learning process;
- ❖ The teacher shows students that mistakes can be made in order to learn;
- ❖ The teacher is interested in the students and gives students the feeling that they are seen;
- ❖ The teacher gives the students the feeling that they can contribute during the course and that this contribution matters;
- ❖ The teacher pays attention to an open atmosphere in the teaching group in which there is respect for each other and trust in each other;
- ❖ The teacher pays attention to explicit expectation management during the lessons in order to ensure that they continue to work together towards the same goal.

### **The role of the teacher as coach of the learning process**

- ❖ The teacher is prepared as it comes to the education offered;
- ❖ The teacher has professional competence and expertise;
- ❖ The teacher ensures a good structure in terms of complexity of the education;
- ❖ The teacher shows the coherence within the education offered and explains to students how learning activities and assessment are related to this;
- ❖ The teacher indicates the learning objectives in relation to the learning activities and assessment to the students in order to contribute to goal-oriented learning;
- ❖ The teacher offers the students space for self-discovery learning within the context of the educational program;
- ❖ The teacher ensures that students are offered a choice of options and flexibility in the educational program in order to make sure that they can influence the design of their own learning process within the guidelines of the learning outcomes;
- ❖ The teacher advises, stimulates and supervises the student as it comes to making choices with regard to their own learning process;
- ❖ The teacher chooses and gives the right level of support and scaffolding for all students for the learning activities and assessment, to make sure that the students are able to make progress in their learning process;

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- ❖ The teacher provides opportunities for differentiation within the educational program;
- ❖ The teacher ensures there is a rich learning environment, both in class and digitally, which can be approached at any time, both inside and outside the school environment;
- ❖ The teacher ensures that there is variation in working methods.

Based on these results of the theoretical background, a first version of the instrument was developed (see Appendix one) that is used in the focus group

### Phase 2 Focus group

The research question that was answered in this phase of the research is:

- Which items should be adapted and adjusted in the evaluation instrument to evaluate teaching quality with regard to active learning of students in higher vocational education?

The focus group consisted of three rounds (see Appendix two).

### **Results round 1 of the focus group**

In the first round the participants were asked to mention five aspects that, according to them, need to be included in the instrument when it comes to teacher quality with regard to activating education. The following aspects emerged:

- The teacher pays attention to and makes use of a hybrid learning environment;
- The teacher gives a clear explanation of theory where necessary;
- The teacher corrects undesirable behavior;
- The teacher sees the individual student as well as group processes;
- The teacher asks questions (stimulating and open questions);
- The teacher has coaching skills / be able to connect with students;
- The teacher has knowledge of the subject and the profession;
- The teacher should not want to tell you everything but support you;
- The teacher has a curious attitude;
- The teacher ensures a safe learning environment/good teacher-student relationship;
- The teacher is needed as an expert = transfer of knowledge;
- The teacher challenges students and set specific goals for assignments;
- The teacher provides clear criteria so that objectives can be monitored and evaluated;
- The teacher ensures equivalence;

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- The teacher works together with the student on expectation management and target operationalization;
- The teacher ensures trust and safety;
- The teacher offers room for student participation;
- The teacher takes care of Attention/Create and maintain Attention;
- The teacher uses feedback (peer and teacher);
- The teacher ensures variation in work formats/differentiation;
- The teacher has the ability to recognize the student's learning style and connect with it;
- The teacher creates flexibility to adapt the program;
- The teacher has knowledge of working methods and methods to be used (in the case of an alternative program, for example);
- The teacher has motivational skills/inspires;
- The teacher communicates clearly;
- The teacher steers/accords to the student's needs;
- The teacher responds/learns from the student's question;
- The teacher responds to student work on the basis of feedback;
- The teacher sees the student in his qualities and learning points;
- The teacher uses students' own experiences in the lessons;
- The teacher asks questions, be thorough and bold;
- The teacher has a helicopter view and thus is able to stand and connect above the issue;
- The teacher is able to think out of the box and not afraid to try out new things;
- The teacher has knowledge of current developments within the profession;
- The teacher has knowledge of the entry level of students and knowledge of the curriculum;
- The teacher is able to link teaching material to practice;
- The teacher is able to take students to a higher level.

### **Results round two of the focus group**

In the second round, the participants of the focus group indicated what they thought of the items of the first version of the instrument (see Appendix one) in terms of relevance and formulation. In Table 2 the results are presented.

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Table 2

*Results round two focus group*

	<b>Item</b>	<b>Remarks on relevance</b>	<b>Remarks on formulation</b>
1	<i>De docent gaf tijdens de les opdrachten uit de beroepspraktijk.</i>	The item is relevant	The participants indicated that the word “beroepspraktijk” needs to be adapted to “Social Work context” because this gives more direction to the concept of professional practice. In addition, the word “gaf” was found to be not very activating and should be adapted to a more activating word.
2	<i>De docent legde de theorie uit aan de hand van voorbeelden uit de beroepspraktijk.</i>	The item is relevant if formulation remarks are taken into account	This question was not formulated in an activating manner. “Legde uit” should therefore be adjusted into “gaf toelichting”. In addition, the term “theorie” must be replaced into “lesstof” because this is a broader term and it is not only about theory. Finally the word “beroepspraktijk” must be replaced by “Social Work context”.
3	<i>De docent gaf door te werken met beroepsopdrachten inzicht in</i>	The item is relevant	Formulation should be more activating. The word “gaf” must be replaced by “zorgde ervoor”. The word “beroepsopdrachten”

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	<i>wat ik al wel en nog niet kan/weet.</i>		needs to be replaced into “beroepstaak”. This is because there is not always an assignment and an assignment does not always gives the student insight in his own abilities. Working towards a professional task is therefore more suitable.
4	<i>De beroepsopdrachten die de docent gaf gaven mij inzicht in wat belangrijk is in de beroepspraktijk.</i>	The item is not relevant	The question is too difficult for students to answer based on just one lesson. If the formulation is changed the question will be double to another question.
5	<i>De docent legde in de les verbanden tussen de lesstof en de beroepspraktijk</i>	The item is relevant	Formulation will be more activating by changing the word “legde”. Optional for this is changing the question into creating a learning environment in which students will be stimulated by the teacher to make the connection between theory en practice.
6	<i>De docent zorgde ervoor dat ik me veilig voelde tijdens de les.</i>	There was disagreement about the relevance of this item	There was also disagreement about the formulation of the question. Some of the participants found that the question itself was too subjective to measure and that other items were an operationalization of this question. It was therefore for

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			<p>them questionable in what way this item was able to contribute. Other participants felt that this item was necessary and contributed to the instrument. Some said that the word 'veilig' should be replaced by 'veilige leeromgeving'.</p> <p>For this item, the question is whether if the student says no, this should also be seen as negative. The student can also say no because it was not necessary for the teacher to do so. In addition, in the formulation "zorgde ervoor" should be replaced by "droeg eraan bij" because the teacher can never take care of this on his own. Applying "droeg eraan bij" might also solve the problem of giving a false negative answer.</p>
7	<i>De docent gaf mij tijdens de les opbouwende feedback.</i>	The item is relevant	<p>The term "opbouwende feedback" needs to be adjusted into "feedback waarvan ik kon leren". The word "mij" should be omitted from the item. This ensures that the question can be used more widely and answered better for everyone.</p>



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8	<i>De docent gaf me tijdens de les het gevoel dat fouten maken niet erg is</i>	The item is relevant if formulation comments are taken into account	There were many objections to the word “fouten” in this question. You can ask yourself what a mistake is and whether a student recognizes it as such especially if we also say that you cannot make mistakes and every effort contributes to the learning process. The word “fouten” should therefore be replaced into “mogelijkheden om te experimenteren of te oefenen”.
9	<i>De docent toonde in de les respect voor mij</i>	The item is not relevant	This items contains no concrete teacher behavior as it is currently formulated. The formulation as well as the relevance of the item would be improved if the question is more about appreciation of contribution. This is more concrete than respect but also contains respect as well as willing to see that students want to learn.
10	<i>De docent zorgde er tijdens de les voor dat ik een bijdrage kon leveren</i>	There was disagreement about the relevance of this item	Half of the participants found that this item was very relevant and the formulation was good. According to them this item is at the root of all other items. The other half of the participants thought very differently about this item and wondered what the

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			<p>student could contribute. They thought this was too vague and when it comes to the feeling that the student should have that he is learning in a meaningful and meaningful way, this question should, in their opinion, rather be linked to professional authentic learning and not to the safe learning environment, or can even be dropped because question 11 is also there.</p>
11	<p><i>De docent zorgde er voor dat ik me tijdens de les actief durfde op te stellen.</i></p>	<p>There was disagreement about the relevance of this item</p>	<p>One half of the participants think it is a relevant question and the formulation is good. The other half of the group has doubts about the relevance of this question in relation to question 6 and whether it is not double.</p>
12	<p><i>De docent stelde mij vragen die me dieper lieten nadenken over de lesstof.</i></p>	<p>The item is relevant</p>	<p>The word “mij” should be left out because asking questions in general is in the interest of the whole class. The word “me” should then be replaced in “mij”.</p>
13	<p><i>De docent gaf aan aan welke leerdoelen we in de les gingen werken.</i></p>	<p>The item is relevant</p>	<p>In terms of formulation, the question is whether learning objectives are clear enough. Proposal to make the question more active, is to make an adjustment in how we are going to work together towards goals.</p>

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			<p>"We" should at least become "ik" and "gingen" should become "ging" because it should be an individual student and they should also be able to have their own influence on the goals within active learning. This also includes seeing and being seen as a student which has been mentioned several times as an item that is missing.</p>
14	<p><i>De docent zorgde ervoor dat ik tijdens de les mijn eigen leerproces evalueerde</i></p>	<p>The item is relevant</p>	<p>Evaluation also continues after the lesson is finished and this should be evident from the question. This needs to be adapted in formulation. In addition, the question is whether the concept of evaluation is not too complicated for the students and let me think about my learning process would not be clearer for students. Finally, "zorgde ervoor" has to be adapted to "daagde mij uit/stimuleerde mij" because then the question is formulated from an active role of the student.</p>
15	<p><i>De docent liet mij na denken over hoe ik de lesstof die ik nog niet helemaal begreep nog beter kan leren</i></p>	<p>There was disagreement about the relevance of this item</p>	<p>According to half of the participants of the focus group, this item is relevant and should be combined with item 17 in terms of formulation, whereby</p>

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			<p>teaching material should be adapted to what is necessary in order to achieve the goals.</p> <p>According to the other half of the participants in the focus group, this item is not relevant and cannot be applied as stated. In addition, item 16 also partly answers this question, because by thinking you choose suitable activities. So the proposal of the second group is to delete the item and keep item 16.</p>
16	<i>De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten.</i>	The item is relevant if formulation remarks are taken into account	Formulation should be adjusted to differentiation or variation in working methods that the teacher had to offer and in which he guided me in my choice of suitability. Learning activities as a concept are not clear enough for students. Self-choice in general is neither relevant nor desirable for all forms of education, but it is based on a variety of options.
17	<i>De docent ondersteunde mij waar nodig bij het behalen van mijn leerdoelen</i>	The item is relevant if formulation remarks are taken into account	You can't answer this question with not applicable while the formulation as it is now can call up that option. If the word "leerdoelen" will be changed to "leerproces" this is no longer an option and the student will

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			always have to be able to answer the question in a positive or negative sense.
18	<i>De docent zorgde voor een duidelijke opbouw van de les.</i>	This item is not relevant	The question as it is now formulated is not relevant because the structure of the lesson says insufficiently about the activating character and a lesson without a clear structure may very well have contributed to the learning process of the student. Especially when mutual expectation management has been well deployed. This is not yet sufficiently reflected in the question. 'De docent maakte duidelijk wat op welk moment in de les van mij wordt verwacht wordt', is presented as an alternative for this item.
19	<i>De docent is een expert op zijn vakgebied.</i>		This question raised many questions in terms of formulation. First of all, because there were differences in what was meant by discipline. Are we talking about expertise as a teacher in general or within the specialism of Social Work? Depending on the type of education you provide, a different expertise is required. In

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			<p>addition, in terms of formulation, it has not been described on concrete teacher behavior. Another question is whether students can give an objective answer to this question. A teacher can explain total nonsense but convey it very well, so that students think he or she is an expert but in fact it says nothing about his or her actual expertise. Another question is how this contributes to activating student learning. From the point of view of professionally authentic tasks, it is important for a teacher to be well informed and have relevant knowledge of the Social Work context in order to be able to stimulate and motivate, but then it is a completely different question.</p>
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### Results round three of the focus group

In the third round of the focus group, the participants were asked to indicate which questions they definitely want to remain in the instrument and what items they would certainly delete. Based on the results, the following items are included in the instrument for sure (Table 3):

Table 3

*Items that need to be in the evaluation instrument*

	Item
5	De docent legde in de les verbanden tussen de lesstof en de beroepspraktijk.

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8	De docent gaf me tijdens de les het gevoel dat fouten maken niet erg is.
12	De docent stelde mij vragen die me dieper lieten nadenken over de lesstof.
14	De docent zorgde ervoor dat ik tijdens de les mijn eigen leerproces evalueerde.

Based on the results, the following items can be removed (Table 4):

Table 4

*Items that need to be omitted in the evaluation instrument*

	<b>Item</b>
18	De docent zorgde voor een duidelijke opbouw van de les.
19	De docent is een expert op zijn vakgebied.

At the end of round three, the participants were asked to mention which of the aspect mentioned in round one, should be given more attention in the instrument. Most of the aspects mentioned in round one were, according to the participant, presented in the first version of the instrument. However, there could be taken more attention to the following teaching aspects with regard to active leaning:

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- The teacher pays attention to and makes use of a hybrid learning environment;
- The teacher sees the individual student as well as group processes;
- The teacher works together with the student on expectation management and target operationalization;
- The teacher ensures variation in work formats/differentiation;
- The teacher responds to the student's question;
- The teacher has accurate knowledge of developments within the profession;
- The teacher guides students in the zone of proximal development.

Based on the results of the three rounds of the focus group the second version of the instrument was developed (See Appendix three).

### *Phase 3 Interviews with students*

The research question that was central to this phase of the research is:

- Which items should be adapted and adjusted in the evaluation instrument to evaluate teaching quality with regard to active learning of students in higher vocational education?

Each interviews consisted of two rounds (see Appendix four).

### **Results round one of the interviews with students**

In the first round the questions were presented one by one to the participants in the same order as they were in the second version of the instrument. The participants were asked to read the question out loud and to indicate what is meant by the question. When the participant interpreted the question the way it was meant, they moved on to the next question. When the participant has a different interpretation of the question, then the purpose of the question was mentioned to them and the participants was asked how to reformulate the question in order to make sure they interpreted it well a next time. The results of the first round are:

#### ***Item 1: De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.***

The question is clear to all participants. They understand and interpret the question correctly and understand the concept "beroepspraktijk."

*Proposal for adjustment: no adjustments*



***Item 2: De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.***

The question is clear to all students. They understand and interpret the question correctly.

*Proposal for adjustment: no adjustments*

***Item 3: De docent liet tijdens de les zien te beschikken over voldoende kennis van de beroepspraktijk van Social Work.***

This question was clear and was interpreted correctly by almost all participants. One participant did find the question somewhat complicated in terms of structure and suggested that the question should be adapted to: “De docent beschikte tijdens de les over voldoende kennis van de beroepspraktijk van Social Work”. Others participants indicated that they find this suggested reformulation of the item, too narrow because the teacher does not only have this knowledge during the lesson but also outside of the lesson. The question then may not properly measure what you want to measure anymore. Because other students did not find the question disturbing in terms of structure, the question was not adjusted.

*Proposal for adjustment: no adjustments*

***Item 4: Doordat de docent beroepsgerichte taken gebruikte kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.***

Of all the questions in the instrument, this question evoked the most variable responses among the participants. Whereas one participant thought that the use of the word "taken" was confusing because in other questions the word "opdrachten" was mentioned and this was not in line with each other, other students liked the difference and because "taken" had been used in this question, the question was easier to answer. One of the participants even indicated that she found the word "opdrachten" to be very annoying because she felt she had to do something and that absolutely did not motivate her to want to do it. She did not have this association with “taken. Two students indicated that “vaardigheden” might be a better term because all tasks require skills to be performed. When asked whether it shouldn't be a combination of skills, knowledge and attitude aspects within the task, they doubted and still indicated that this would mainly be expressed in a skill that a student had to show. In spite of all the different opinions on this question, it became clear that all students were able to explain the question in the first place in a correct way. This, together with the more activating jargon that will be introduced within the academy in the coming years during the

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curriculum review in which the concept of profession-oriented tasks will frequently be given a place, makes that in the end it was decided not to adjust the question.

*Proposal for adjustment: no adjustments*

***Item 5: De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.***

The question is clear to all participants. They understand and interpret the question correctly and found that this is a very relevant item.

*Proposal for adjustment: no adjustments*

***Item 6: De docent gaf tijdens de les feedback waarvan ik kon leren.***

This question was well interpreted by the participants and they indicated that they found the question clear and very relevant.

*Proposal for adjustment: no adjustments*

***Item 7: Doordat de docent me tijdens de les liet oefenen met de lesstof begreep ik de lesstof beter.***

The question is clear to all participants. They understand and interpret the question correctly and found that this is a very relevant item. Several times during the different interviews, the participants mentioned that this needs to get a lot more attention during the lessons because it helps students if it comes to higher level of mastery of the subject matter.

*Proposal for adjustment: no adjustments*

***Item 8: De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.***

This question was well interpreted by the participants and they indicated to find the question clearly. Almost all participants also indicated that they find it very important that the teacher shows this in his behavior during the lesson. There was one participant who did not think it was necessary for the teacher to show appreciation for the input of students.

However, the participant also indicated that as a student she also did not experience much difficulty in having input and that she would have input during the lessons regardless of what the teacher would do.

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Based on all interviews, the decision was made to leave the question as it is, despite this dissenting opinion. This is because the rest of the interviewees rated the value of the question so high.

*Proposal for adjustment: no adjustments*

### ***Item 9: De docent zorgde ervoor dat ik me tijdens de les actief durfde op te stellen.***

This question was well interpreted by students and they indicated to find the question clearly. However, a number of students indicated that “zorgde ervoor” might not be the correct wording in the question, but that “droeg eraan bij” would be better. This is because, whether a student dares to be active depends not only on the behavior of the teacher but also on the student himself and the degree to which the student dares to step out of his comfort zone. If you use the words “zorgde ervoor”, then it depends too much on the teacher and the question could be answered negatively for the wrong reasons, namely because the student himself did not dare despite the efforts of the teacher.

*Proposal for adjustment: De docent droeg eraan bij dat ik me tijdens de les actief durfde op te stellen.*

### ***Item 10: De docent stelde vragen die mij dieper deden nadenken over de lesstof.***

This question was well interpreted by the participants and they indicated to find the question clearly. Almost all participants also indicated that they think it is very important that the teacher shows this. There was one participant who found it difficult to think about which kind of questions the teacher should ask. This participant also indicated that this was not happening enough in the current education and that this might cause that it is difficult to think this item through. After explanation and an example, the participant came up with a number of examples himself and indicated that he wanted to see this more.

*Proposal for adjustment: no adjustments*

### ***Item 11: De docent besprak in het begin van de les aan welke doelen ik ga werken.***

This question was well interpreted by students and they indicated that they found the question clear but too specific for one student. Most students indicated that it would be better to ask the question more generally. Discussing their own goals with everyone seemed too many students to be unfeasible, too time-consuming and undesirable. The question will therefore also be adapted to a more general formulation. Furthermore, there will be a change from goals to lesson goals in this question, because almost all students indicated that this fits

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better with the more general description and question 16 in which also lesson goals are discussed.

*Proposal for adjustment: De docent besprak in het begin van de les aan welke lesdoelen gewerkt gaat worden.*

### ***Item 12: De docent daagde mij uit om te evalueren wat ik geleerd had tijdens de les.***

This question was clear to the participants and was interpreted correctly. The participants all indicated that there was still too little application of evaluation in the lessons and that they would very much like to see this more. Often there is an evaluation at the end of the course but too little attention is paid to the learning effect. The question is therefore also very relevant according to the students. Two participants indicated that they would find it an improvement if the word “had” in the question would be replaced by “heb”, because otherwise it seems as if after the lesson the learning effect would be gone. This reasoning sounds logical and this will be adjusted in the item.

*Proposal for adjustment: De docent daagde mij uit om te evalueren wat ik geleerd heb tijdens de les.*

### ***Item 13: De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten***

This question was well interpreted by the participants and they indicated to find the question clearly. One participant had doubts about the concept of learning activities. When asked to explain, she gave the correct explanation of the concept. Based on this she did not think that this needed to be changed in the question. Other participants indicated that learning activities as a concept were clear to them. All participants indicated that there is now too little opportunity in the educational program to make own choices with regard to learning activities and that they would consider it a great improvement in education if choices were offered more.

*Proposal for adjustment: no adjustments*

***Item 14: De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten***

This question was well interpreted by students and they indicated to find the question clearly. However, one participant indicated that she would like to be added to this question "Tijdens de les" because this is reflected in almost all other questions and it is strange that this is not mentioned here. This will be adjusted.

*Proposal for adjustment: De docent begeleidde mij tijdens de les bij het kiezen van geschikte leeractiviteiten*

***Item 15: De docent zorgde ervoor dat ik tijdens de les wist wat er op welk moment van mij verwacht werd.***

This question was clear but almost all students thought it was too long and suggested to remove "op welk moment" from the question. Without "op welk moment" they said the question would be better and easier to read and understand and then the teacher can still choose to indicate in the explanation that different parts come back at different times during the lesson.

*Proposal for adjustment: De docent zorgde ervoor dat ik tijdens de les wist wat er van mij verwacht werd.*

***Item 16: De docent zorgde voor voldoende materialen (o.a. web lectures, literatuur, beeldmateriaal) die ik voor en tijdens de les kon gebruiken om te werken aan de lesdoelen.***

This question was in principle perceived as clear by all participants and the examples contributed to the interpretation of the question. Despite the fact that it is a long question, no one would not want to shorten the question. However, several participants indicated that "lesdoelen" might be too vague and not broad enough because you can also use it to work on your own learning goals and it is about learning in general. One participant indicated that if we choose for "lesdoelen", these goals should be clear before the lesson because the question says "voor de les" as well. Several students indicated that "om te werken aan de lesdoelen" might be better replaced by "om te leren". This would make the question broader and easier to answer.

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This is a logical argumentation and will be adjusted. A number of students also assume that ‘materialen could become better “lesmaterialen” in the question. This is more in line with the terminology used for these materials within the course, and materials can be interpreted too broadly. This will also be adjusted.

*Proposal for adjustment: De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die ik voor en tijdens de les kon gebruiken om te leren.*

### **Results round two of the interviews with students**

In the second round the entire instrument (see Appendix four) is shown to the participants. The participants are asked to give their opinion about the following questions:

1. What do they think of the length of the list?
2. What do they think of the order of the list?
3. Are there questions that can/should be omitted?
4. Are they missing any items and if so, which ones?

The results of the second round are:

#### ***What do you think of the length of the list (too little/sufficient/good/too much)?***

The number is good say six out of eight participants. Two participants doubt between good and too much but according to them that also depends on how you fill it out (laptop or phone) and how often you do it. If the instrument will be used after each lesson then they think it is too much, but if you use it for three times maximum in ten weeks then the amount of questions is good.

*Proposal for adjustment: no adjustments.*

#### ***What do you think of the order of the list?***

The order of the list is good according to all participants. They like the fact that concepts are measured one after the other because then you stay in the same terms and that makes answering the questions easier and quicker.

*Proposal for adjustment: no adjustments.*

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### ***Are there questions that can/should be omitted and if so, which ones?***

According to six participants there are no questions that should be omitted from the instrument. The items are all functional, although some questions may still be difficult to answer because they are insufficiently applied, but that will have to be clear from the scores. According to two participants there are items that need to be omitted.

One of the participants said that item one and two are a bit double and can possibly be merged because you often do both at the same time even though they are two different concepts. Precisely because measuring two concepts in one question is not desirable, this proposal for adjustment will not be accepted.

Another participant indicates that item fifteen can be omitted because it is not activating enough. Other participants absolutely disagree with this because they find it conditional for active learning that the teacher can also apply a certain degree of structure, and they considered it very important that students are helped by the teacher to know what they are working towards. This proposal for adaptation is therefore also not accepted.

*Proposal for adjustment: no adjustments*

### ***Are you missing any items and if so, what should they be about?***

Most participant's find the list like it is already complete enough and don't have any items they want to add or miss. What has been mentioned by a student is that she finds the extent to which the teacher applies hierarchy important for the climate that prevails in the classroom. According to her, the effect of a teacher who shows a desire to be above the class is negative compared to a teacher who is next to or equal to the class. The question is only how you want to measure this because this is very subjective and it is not clear from the literature that this has a positive or negative effect. In addition, the teacher also has an evaluative role and so there will always be a hierarchy from that role.

Another participant indicates that it would also be nice if a number of the questions from the list were measured on the basis of the group's behavior rather than just looking at the teacher's behavior because this also has a major effect, particularly when it comes to the safe learning environment. However true this may be, it is not the objective of this study, although it could be a nice follow-up to this study.

*Proposal for adjustment: no adjustments*

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### *Phase 4 digital survey*

The research question that was central in this phase of the research is: *What is the content validity of the designed evaluation instrument?*

To determine whether the items in the third version of the evaluation instrument are considered content valid, the Content Validity Ratio (CVR) was determined for all items, based on the data from the digital survey. The digital survey was done using Qualtrics in which the third version of the evaluation instrument (see Appendix five) was sent to teachers, school policy makers and a school manager. The survey was filled out by twenty-three teachers, 3 policy makers and one school manager.

In table 5, the proportion of the number of respondents who consider an item to be “essential” (The Content Validity Ratio) is presented.

Table 5

*Content validity Ratio of the items in the evaluation instrument*

<b>Item</b>	<b>CVR critical value</b>	<b>CVR</b>
1. De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.	.407	0.407
2. De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.	.407	0.481
3. De docent beschikte tijdens de les over voldoende kennis van de beroepspraktijk van Social Work.	.407	0.259
4. Doordat de docent mij liet werken aan beroepsgerichte taken, kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.	.407	0.630
5. De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.	.407	1.00
6. De docent gaf tijdens de les feedback waarvan ik kon leren.	.407	0.704
7. Door tijdens de les te oefenen met de lesstof, begreep ik de lesstof beter.	.407	0.407



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8. De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.	.407	0.704
9. De docent droeg eraan bij dat ik me tijdens de les actief durfde op te stellen.	.407	0.630
10. De docent stelde vragen die mij dieper deden nadenken over de lesstof.	.407	0.481
11. De docent besprak aan het begin van de les aan welke lesdoelen gewerkt ging worden.	.407	0.111
12. De docent daagde mij uit om te evalueren wat ik tijdens de les geleerd had.	.407	0.704
13. De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten.	.407	-0.333
14. De docent begeleidde mij tijdens de les bij het kiezen van geschikte leeractiviteiten.	.407	-0.333
15. De docent zorgde ervoor dat ik tijdens de les wist wat er van mij verwacht werd.	.407	0.556
16. De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die ik kon gebruiken om te leren.	.407	0.333

*The results show how many experts filled out the question about the validity of the item (N), the critical CVR value to be met based on research from Ayre and Scally (2014), and the actual achieved CVR value of each item.*

Based on the results as shown in table 5 it can be concluded that eleven items in the third version of the questionnaire are considered to be content valid. For these items the CVR value is higher or equal to the critical CVR value of .407, ranging from 0.407 to 1.

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For five items, the CVR value is not equal to or higher than the .407 critical value, ranging from  $-0.333$  until  $0.333$ , and therefore these items should not be considered content valid. These items have been examined in more detail. The scores of the experts for these items are shown in table 6.

Table 6

*Number of expert scores for not content valid items*

Item	Essential	Interesting, but not essential	Not important
3	15	11	1
11	14	11	2
13	9	16	2
14	9	17	1
16	17	9	1

In the digital survey, experts who indicated that an item was “interesting but not essential” or “not important”, were asked to substantiate this score per item. For each item that was found not to be content valid, this substantiation is therefore described below:

### ***Item 3: De docent beschikte tijdens de les over voldoende kennis van de beroepspraktijk van Social Work.***

There were eleven experts who considered the item to be interesting but not essential, and one expert did not consider the item to be important in relation to the objective. The reason that was indicated why the item was not essential or was unimportant, according to the experts, was that knowledge is not always leading to activation. For instance, the teacher can tell a lot about how much knowledge he has and the student will have to respond positively to this statement, while the student has not been activated by that knowledge. Based on this argumentation and the results from the other research phases, it is questionable if this item contributes to the goal of the evaluation instrument. Item three seems to add insufficiently if it comes to measuring the quality of the teaching skills with regard to active learning and can therefore be dropped.

### ***Item 11: De docent besprak aan het begin van de les aan welke lesdoelen gewerkt ging worden.***

There were eleven experts who considered the item to be interesting but not essential, and two experts did not consider the item to be important in relation to the objective. The reason why the item was not essential or was unimportant, according to the experts, was that

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this item was not actively formulated and the respondents found that this item overlaps with item fifteen. Item fifteen is about knowing as a student what is expected during the lesson. According to the argumentation of the respondents, you can only know what is expected of you during a lesson if you also know what the goals of the lesson are. This makes what is expected to be used more widely in terms of use than this question which is only about the learning objectives. Item 15 was also seen as more activating because of the formulation in what is expected from the students. Therefore, because item eleven is found to be not content valid and the item does not add enough to measuring the quality of the teaching skills with regard to active learning according to the respondents, it is omitted from the evaluation instrument.

### ***Item 13: De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten.***

There were sixteen experts who considered the item to be interesting but not essential, and two experts did not consider the item to be important in relation to the objective. The reason that was indicated why the item was not essential or was unimportant, according to the experts, was because this item was not actively formulated.

In addition, they indicate that there is a presupposition in the question, namely that each lesson should offer different activities which is not necessary for a lesson to be activating. Teachers' main task is to create a learning environment in which students can apply the acquired knowledge and skills in assignments that are closely related to professional practice. The choice of different teaching materials, or the provision of them does not necessarily have to come from the teacher. It may also be an assignment to challenge students to look for knowledge/relevant sources themselves.

Based on this, several respondents indicated that this item is not essential for measuring the quality of teaching skills with regard of active learning and can be excluded from the evaluation instrument.

### ***Item 14: De docent begeleidde mij tijdens de les bij het kiezen van geschikte leeractiviteiten.***

There were seventeen experts who considered the item to be interesting but not essential, and one expert did not consider the item to be important in relation to the objective. The reason that was indicated why the item was not essential or was unimportant, according to the experts, was because this item does not fit the active learning attitude you expect and want from the students. Students themselves should find out which learning activities suit them best by trying them out and learning from them. Students should have more control as it

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comes to choosing appropriate learning activities and should be stimulated to experience this for themselves. This item gives the impression that most of the direction should be given by the teacher, and the experts do not think this is right and does not correspond with what active learning should be about. For a good lesson it is, according to them, not necessary that the student is helped by the teacher in choosing appropriate learning activities. It can help students to become an active learner and to think as an active learner, but this guidance is not necessarily needed.

Based on this argumentation and the CVR-score of -0.333 this item can be omitted from the evaluation instrument because it does not add enough to measuring the quality of the teaching skills with regard to active learning.

***Item 16: De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die ik kon gebruiken om te leren.***

There were nine experts who considered the item to be interesting but not essential, and one expert did not consider the item to be important in relation to the objective. The reason that was indicated why the item was not essential or was unimportant, according to the experts, was that sufficient materials are important, but that offering sufficient material does not mean that the student will do something with it and will be activated by it. The way this item is formulated is not activating enough according to the respondents. If the formulation was more about how this teaching-behavior with regard to learning materials encouraged the student to learning, instead of having the possibility to use it to learn from, than this will probably lead to a higher content validity ratio and most likely the item would be considered content valid.

What is also important to take in consideration with regard to this item is that this item was seen as relevant in the earlier phases of the research. In the literature review, for instance, it was stated that the teacher needs to ensure that there is a rich learning environment, both in class and digitally, which can be approached at any time, both inside and outside the school environment

Therefore this item is not omitted for the time being but adjusted according to the feedback given by the experts into: ***De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die mij stimuleerden om te leren.***

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Based on the results of the digital survey and the decision that was made to omit four items from the evaluation instrument and adjust one item, a new, fourth version of the instrument was developed that is considered content valid as it comes to measuring teacher quality with regard to active learning. This version will be used in the pilot test that will take place after completing this research.

### **Conclusion**

Saxion is making a transition towards active learning. For this transition to succeed it is important for teachers to obtain insight into the quality of their teaching skills with regard to active learning. The aim of this research was therefore to examine the concept of active learning and to develop a student evaluations of teaching (SET) instrument by means of which the quality of activating teaching skills can be evaluated by teachers of the educational program of Social Work at Saxion.

The student ratings of teachers' teaching quality with regard to active learning can provide teachers insights into where to improve their teaching skills with regard to active learning in order to maximize their contribution in the students learning process. Based on the results of the evaluation they are able to adapt the lessons on the students feedback and improve themselves if it comes to carrying out the newly developed didactics in a form that activates students.

In order to develop this student evaluation instrument the following research question needed to be answered in this thesis: *Which items with regard to active learning in higher vocational education need to be included in a tool that can be used by teachers to evaluate the quality of their teaching by means of student perceptions with respect to the active learning of students?*

For this research, a multiple stage mixed-method design was used to collect both qualitative and quantitative data that contributed to answering the research question. The research took place in four different phases.

In the first phase a literature review was performed to define *which theoretical concept(s) should be operationalized with the items in the instrument in order to measure teaching quality with regard to an active student learning approach within higher vocational education.*

Based on the literature review, active learning was defined as a(n) (inter)active process of knowledge and skills construction that will enable students in making the transfer from lesson content to other (professional) contexts. A high degree of involvement and participation of the students in their own learning process is a prerequisite for this.

Based on research conducted and described in the theoretical background section, it can be stated that if it comes to active learning and the related teaching skills, three concepts are important in this respect:

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- Teaching should take place with regard to professionally authentic tasks as much as possible;
- Teachers need to provide education in a safe learning environment;
- The role of the teacher as coach of the learning process is essential.

Based on the results of the review a first version of the evaluation instrument was developed (See appendix one). All items of the instrument were based on the above mentioned three crucial concepts for active learning.

The second phase of this research was a focus group with participants with expertise regarding active learning. In this phases the central question to be answered was: *Which items should be adapted and adjusted according to Saxion teachers, school policy makers, school managers, in the instrument to evaluate teaching quality with regard to active learning of students in higher vocational education?*

The focus group evaluated the first version of the instrument to determine the relevance and formulation of the different items. This led to a few adjustments in the items. The adjustments were made mostly because the participants found that items were not formulated in terms of concrete teacher behavior or did not lead (enough) to active learning of students. The participants also indicated that a few items were overlapping, or not relevant to be measured when it comes to measuring quality of teaching skills with regard to active learning. Based on the results of the focus group a second version of the instrument was made (See Appendix three). This second version was used for interviews with students (phase 3).

The interviews were used to answer the question: *Which items should be adapted and adjusted according to students, in the instrument to evaluate teaching quality with regard to active learning of students in higher vocational education?*

In the interviews students were asked to give feedback on the formulation and their interpretation of the items. After all items had been discussed with the students, the complete set of items was presented and overall questions were asked. The questions that were asked were about whether aspects were missing or irrelevant, the size of the instrument and the order of the items.

This did not lead to adjustments. Students were positive about the length and the order of the items. There were differences as it comes to missing items and items that can be omitted according to students, but overall these differences did not lead to adjustments. Based on the feedback students gave about the formulation and interpretation of the items some items were adjusted. Decisions with respect to adjustment were based on the results of the

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interviews, the focus group and the theoretical background. This resulted in the third version of the instrument (See Appendix five).

Next to feedback on the content of the instrument the students provided feedback on the actual use of the instrument. The current advice is to use the instrument at least twice in a series of lessons and during the series of lessons, so that students can also benefit from it. However, the level of use requires further elaboration during the pilot test that will start after the current study.

The last and fourth phase of the research had initially been planned to be a pilot test. In this test the third version of the instrument would be tested by means of the Impact! tool. On the basis of the results of the pilot test, it should be possible to take a closer look at the validity and reliability of the developed evaluation instrument. Unfortunately, due to the Corona pandemic, classroom teaching was not possible anymore. As a result, this pilot test was not feasible at the moment, but will still be carried out after completion of the study when classroom teaching will be possible again.

Therefore in the fourth phase of this research, a digital survey was used instead. The digital survey was intended to provide an answer to the question: *What is the content validity of the designed evaluation instrument?*

The digital survey, was filled out by teachers, school policy-makers and a school manager with expertise regarding active learning, in order to determine the Content Validity Ratio (CVR) using the Lawshe research technique as described by Wilson et.al., (2012).

The results of the survey showed that eleven items were valid for measuring teaching quality with regard to active learning. These eleven items had a CVR value higher or equal to the critical CVR value of .407, ranging from 0.407 until 1. For five items, the CVR value was not equal to or higher than the .407 critical value, ranging from -0.333 until 0.333, and therefore these items could not be considered content valid. These items were examined in more detail and based on the findings, it was decided that four items needed to be omitted from the evaluation instrument and that one item was adjusted.



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This resulted in the fourth version of the evaluation tool, which also answers the main question posed at the beginning of this research: *Which items with regard to active learning in higher vocational education need to be included in an tool that can be used by teachers to evaluate the quality of teaching by means of student perception with respect to the active learning of students?*

Table 7

*Fourth version of the items that need to be included in the evaluation instrument*

	<i>Item</i>
1.	De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.
2.	De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.
3.	Doordat de docent mij liet werken aan beroepsgerichte taken, kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.
4.	De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.
5.	De docent gaf tijdens de les feedback waarvan ik kon leren.
6.	Door tijdens de les te oefenen met de lesstof, begreep ik de lesstof beter.
7.	De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.
8.	De docent droeg eraan bij dat ik me tijdens de les actief durfde op te stellen.
9.	De docent stelde vragen die mij dieper deden nadenken over de lesstof.
10.	De docent daagde mij uit om te evalueren wat ik tijdens de les geleerd had.
11.	De docent zorgde ervoor dat ik tijdens de les wist wat er van mij verwacht werd.
12.	De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die mij stimuleerden om te leren.

### *Discussion*

Although there is a positive result as it comes to the main purpose of this research, there are also a few limitations and objections in this research that need to be addressed.

The first limitation concerns the recruitment of students for the interviews in phase three. Initially, all students of the educational program were invited by email to take part in the interviews. Unfortunately, the response rate was so low that it was decided to randomly approach students in person at the academy to participate. Unfortunately, since third-year students are hardly physically present at the academy due to their internship, they could not be included in the current interviews. Although, the absence of third-year students can be seen as a limitation, these students receive almost no teaching at the academy of which the active learning component is currently studied.

Another limitation in this research concerns the adaptation of the fourth phase of the research. In March 2020, the pilot test was planned in which the third version of the evaluation instrument would be tested within different teaching groups of the educational program of Social Work. For this purpose, the participants were recruited and all the items from the third version of the instrument were placed in the Impact! tool. The schedule for the pilot test was ready and the testing was supposed to start. In the week before the actual test, the Corona pandemic caused that classroom teaching had to be converted to online teaching and therefore it was not possible to start the pilot test. This led to an adaptation of the fourth phase of this research. Instead of the pilot test, a digital survey in Qualtrics was used. The digital survey made it possible to assess the content validity of the instrument on the basis of quantitative data. However, measuring the reliability of the questionnaire was not possible by using the digital survey. In order to obtain more insight into the reliability of the instrument it was decided that the pilot test would be carried out after the start-up of classroom teaching. Due to the timeline of this thesis, this will take place after the completion of this thesis. Therefore in this thesis only the content validity and not the reliability could be studied, which gives a less complete picture of the validity of the instrument.

A choice that has been made in developing the evaluation instrument that needs to be discussed, concerns the selection of items. The current selection of items is based on the principle that each question must be able to be filled in after each lesson and should be applicable to each lesson. Due to these restrictions a small number of aspects of activating learning could not be included in the instrument. An example of this is the extent to which

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the teacher has contributed to students' collaborative learning. This has not been included in the instrument despite the fact that the literature review of active learning showed that this is an important aspect of active learning. Although this fits well with the choice of how the instrument will be applied, it is important to be aware of this.

Furthermore, this research has led to the development of an evaluation tool that can be used as a formative tool during series of lessons. During the interviews the students provided feedback on the actual use of the instrument. The current advice is to use the instrument at least twice in a series of lessons and during series of lessons, so that students can also benefit from it. However, the level of use needs further elaboration. The use of the tool by teachers should also be tested within the pilot test. This will therefore have to take place after the end of this research, possibly in combination with a focus group that specifically looks at these aspects.

Finally, the digital survey initially did not include a question asking respondents to substantiate why they felt certain items were not essential. This was adjusted during this phase, but unfortunately as a result this substantiation was not given by all the respondents. Although most of the respondents were able to give their reasoning this has to be taken into account.

### *Recommendations and implications for further research*

As mentioned in the discussion, further research into the practical feasibility and the use of the tool by the teachers should take place by means of the pilot test and this should be extended by a focus group that gives teachers the opportunity to give their professional opinion specifically on these two aspects.

Next, after completion of this study, the pilot test in which the reliability of the evaluation instrument and also the validity of this instrument will be studied will take place. If it comes to the reliability it is important to look at which factors affect the scoring on this evaluation instrument, for instance, grade, size of the study group, moment of using the evaluation instrument and years of experience of the teacher.

Further, on the basis of the results of the evaluation instrument, it is possible for teachers to work on professionalization. Follow-up research into the extent to which expertise and guidance should be offered as it comes to this professionalization and how this can positively influence the quality of teaching skills from the teachers is desirable. This is important to ensure that the feedback resulting from the use of this instrument can be used properly for further teacher-professionalization activities. For instance, what kind of support needs to be available for teachers after they have used the evaluation instrument and how should this support be offered?

Another recommendation for further research has to do with the language of the instrument. The current evaluation instrument was developed in Dutch, and although this was also the objective of the research, it would be nice if the instrument could also be used in German in the future, since some students in the Social Work program follow the German part-time variant of the program.

The current instrument focuses on teacher behavior and the associated skills with regard to students' active learning. Within the focus group and the interviews, it has been rightly stated several times that the degree of active learning not only depends on the teacher but also on the commitment and attitude of the students and their group process. This also corresponds with the theory in which it is described that within active learning there is an interaction between teacher and students and between students. It would be a good idea to supplement the current instrument, with instruments with a focus on the role of the student and on the group process.

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Because the Social Work is one of the first educational programs to start the transition towards activating education and the other Saxion programs will follow in the coming years, it is important to look at the applicability of the evaluation instrument within the other educational programs. What can and should be stated in general terms with regard to the teacher skills associated with activating education and what should be stated specifically? This also is a subject of further research.

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### *Appendixes*

#### *Appendix one: first version of the instrument for the focus group*

1	De docent gaf tijdens de les opdrachten uit de beroepspraktijk.
2	De docent legde de theorie uit aan de hand van voorbeelden uit de beroepspraktijk.
3	De docent gaf door te werken met beroepsopdrachten inzicht in wat ik al wel en nog niet kan/weet.
4	De beroepsopdrachten die de docent gaf gaven mij inzicht in wat belangrijk is in de beroepspraktijk.
5	De docent legde in de les verbanden tussen de lesstof en de beroepspraktijk.
6	De docent zorgde ervoor dat ik me veilig voelde tijdens de les.
7	De docent gaf mij tijdens de les opbouwende feedback.
8	De docent gaf me tijdens de les het gevoel dat fouten maken niet erg is.
9	De docent toonde in de les respect voor mij.
10	De docent zorgde er tijdens de les voor dat ik een bijdrage kon leveren.
11	De docent zorgde er voor dat ik me tijdens de les actief durfde op te stellen.
12	De docent stelde mij vragen die me dieper lieten nadenken over de lesstof.
13	De docent gaf aan aan welke leerdoelen we in de les gingen werken.
14	De docent zorgde ervoor dat ik tijdens de les mijn eigen leerproces evalueerde.

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15	De docent liet mij na denken over hoe ik de lesstof die ik nog niet helemaal begreep nog beter kan leren.
16	De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten.
17	De docent ondersteunde mij waar nodig bij het behalen van mijn leerdoelen.
18	De docent zorgde voor een duidelijke opbouw van de les.
19	De docent is een expert op zijn vakgebied.

*Appendix two: materials focus group***Outline focus group**

<b>Tijd</b>	<b>Activiteit</b>	<b>Benodigheden</b>
09:00	Welkom + voorstellen	Koffie/thee Geluidsofname apparaat
09:10	Introductie over het onderzoek en de Impact! tool: <ul style="list-style-type: none"> <li>• Achtergrondinformatie definitie en aanleiding onderzoek + doel van deze bijeenkomst</li> <li>• Korte uitleg Impact! tool</li> <li>• Gelegenheid geven om vragen te stellen en checken of het doel duidelijk is.</li> </ul>	PowerPointpresentatie
09:20	<b>Ronde 1:</b> <ul style="list-style-type: none"> <li>• Bedenk voor jezelf wat de vijf meest belangrijke aspecten zijn die gemeten moeten worden als het gaat om de docentkwaliteit met betrekking tot activerend onderwijs en schrijf deze op.</li> <li>• Uitleggen aan de hand van een voorbeeld wat een aspect zou kunnen zijn</li> <li>• Briefjes innemen en punten benoemen. Nog niet op ingaan, maar alleen te gebruiken als inventarisatie.</li> </ul>	Hand-out ronde 1
09:30	<ul style="list-style-type: none"> <li>• Een aantal voorbeelden van aspecten benoemen die uit de literatuurstudie naar voren kwamen en een overzichtslijst uitdelen</li> <li>• Criteria voor het opstellen van de vragen benoemen</li> </ul>	PowerPointpresentatie Overzichtslijst met alle aspecten (in het Engels) en de vragenlijst uitdelen = 1 document
09:40	<b>Ronde 2:</b> Bespreken van de items: <ul style="list-style-type: none"> <li>• Relevantie?</li> <li>• Opmerkingen over formulering?</li> </ul> Ruimte voor opmerkingen/kritische noten.	Hand-out ronde 2
10.40	<b>Ronde 3 (optioneel):</b> <ul style="list-style-type: none"> <li>• Selecteer vijf items die je zeker terug wil zien in de vragenlijst (groene sticker) en drie items die je minder goed vind (rode sticker)</li> </ul>	Rode en groene stickers Hand-out ronde 3

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	<ul style="list-style-type: none"> <li>Innemen hand-out ronde</li> </ul>	
10:50	Afsluiting + Bedankje	Bedankje voor de deelnemers.

### Hand-out ronde 1 – Aspecten docentkwaliteit activerend onderwijs

Bedenk voor jezelf wat de vijf meest belangrijke aspecten zijn die gemeten moeten worden als het gaat om de docentkwaliteit met betrekking tot activerend leren van studenten.

Schrijf deze hieronder op.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

### Hand-out ronde 2 – Open discussie over de items in de vragenlijst

	Items	Opmerkingen over de relevantie	Opmerkingen over de formulering
1	De docent gaf tijdens de les opdrachten uit de beroepspraktijk.		
2	De docent legde de theorie uit aan de hand van voorbeelden uit de beroepspraktijk.		
3	De docent gaf door te werken met beroepsopdrachten		

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	inzicht in wat ik al wel en nog niet kan/weet.		
4	De beroepsopdrachten die de docent gaf gaven mij inzicht in wat belangrijk is in de beroepspraktijk.		
5	De docent legde in de les verbanden tussen de lesstof en de beroepspraktijk.		
6	De docent zorgde ervoor dat ik me veilig voelde tijdens de les.		
7	De docent gaf mij tijdens de les opbouwende feedback.		
8	De docent gaf me tijdens de les het gevoel dat fouten maken niet erg is.		
9	De docent toonde in de les respect voor mij.		
10	De docent zorgde er tijdens de les voor dat ik een bijdrage kon leveren.		
11	De docent zorgde er voor dat ik me tijdens de les actief durfde op te stellen.		

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12	De docent stelde mij vragen die me dieper lieten nadenken over de lesstof.		
13	De docent gaf aan aan welke leerdoelen we in de les gingen werken.		
14	De docent zorgde ervoor dat ik tijdens de les mijn eigen leerproces evalueerde.		
15	De docent liet mij na denken over hoe ik de lesstof die ik nog niet helemaal begreep nog beter kan leren.		
16	De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten.		
17	De docent ondersteunde mij waar nodig bij het behalen van mijn leerdoelen.		
18	De docent zorgde voor een duidelijke opbouw van de les.		
19	De docent is een expert op zijn vakgebied.		

**Hand-out ronde 3 – Welke items echt wel behouden en welke liever niet?**

<b>Items</b>		<b>Ruimte voor stickers</b>	<b>Toelichting van de gemaakte keuze</b>
1	De docent gaf tijdens de les opdrachten uit de beroepspraktijk.		
2	De docent legde de theorie uit aan de hand van voorbeelden uit de beroepspraktijk.		
3	De docent gaf door te werken met beroepsopdrachten inzicht in wat ik al wel en nog niet kan/weet.		
4	De beroepsopdrachten die de docent gaf gaven mij inzicht in wat belangrijk is in de beroepspraktijk.		
5	De docent legde in de les verbanden tussen de lesstof en de beroepspraktijk.		
6	De docent zorgde ervoor dat ik me veilig voelde tijdens de les.		
7	De docent gaf mij tijdens de les opbouwende feedback.		
8	De docent gaf me tijdens de les het gevoel dat fouten maken niet erg is.		
9	De docent toonde in de les respect voor mij.		
10	De docent zorgde er tijdens de les voor dat ik een bijdrage kon leveren.		
11	De docent zorgde er voor dat ik me tijdens de les actief durfde op te stellen.		
12	De docent stelde mij vragen die me dieper lieten nadenken over de lesstof.		

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13	De docent gaf aan aan welke leerdoelen we in de les gingen werken.		
14	De docent zorgde ervoor dat ik tijdens de les mijn eigen leerproces evalueerde.		
15	De docent liet mij na denken over hoe ik de lesstof die ik nog niet helemaal begreep nog beter kan leren.		
16	De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten.		
17	De docent ondersteunde mij waar nodig bij het behalen van mijn leerdoelen.		
18	De docent zorgde voor een duidelijke opbouw van de les.		
19	De docent is een expert op zijn vakgebied.		



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### *Appendix three: second version of the instrument for the interviews*

1	De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.
2	De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.
3	De docent beschikte tijdens de les over voldoende kennis van de beroepspraktijk van Social Work.
4	Doordat de docent mij liet werken aan beroepsgerichte taken, kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.
5	De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.
6	De docent gaf tijdens de les feedback waarvan ik kon leren.
7	Door tijdens de les te oefenen met de lesstof, begreep ik de lesstof beter.
8	De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.
9	De docent droeg eraan bij dat ik me tijdens de les actief durfde op te stellen.
10	De docent stelde vragen die mij dieper deden nadenken over de lesstof.
11	De docent besprak aan het begin van de les aan welke lesdoelen gewerkt ging worden.
12	De docent daagde mij uit om te evalueren wat ik tijdens de les geleerd had.
13	De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten.
14	De docent begeleidde mij tijdens de les bij het kiezen van geschikte leeractiviteiten.
15	De docent zorgde ervoor dat ik tijdens de les wist wat er van mij verwacht werd.
16	De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die ik kon gebruiken om te leren.

*Appendix four: Materials interviews***Outline interviews**

<b>Tijd</b>	<b>Activiteit</b>	<b>Benodigheden</b>
5 minuten	<b>Introductie</b> Welkom + voorstellen Introductie onderzoek: <ul style="list-style-type: none"> <li>• Korte uitleg van de onderzoeksvraag en het doel en de werkwijze van het interview</li> <li>• Gelegenheid geven om vragen te stellen en checken of het doel duidelijk is</li> </ul>	<ul style="list-style-type: none"> <li>• Koffie/thee</li> <li>• Geluidsopname apparaat</li> <li>• Tekst van de mail die ze van mij vooraf hebben ontvangen</li> </ul>
15 minuten	<b>Ronde 1</b> <ul style="list-style-type: none"> <li>• De vragen worden 1 voor 1 aan de student gepresenteerd in de volgorde zoals ze nu ook in de vragenlijst zitten</li> <li>• Per vraag leest de student de vraag hardop voor</li> <li>• Per vraag geeft de student aan wat er met de vraag bedoeld wordt</li> <li>• Als de student de vraag interpreteert zoals ik hem bedoeld had dan gaan we door naar de volgende vraag</li> <li>• Mocht de student een andere interpretatie van de vraag hebben als dat ik bedoelde dan geef ik daarna het doel van de vraag zoals ik hem bedoeld had en dan volgt de vraag hoe we dat dan het beste kunnen formuleren zodat we de vraag wel het hetzelfde interpreteren</li> </ul>	<ul style="list-style-type: none"> <li>• Alle vragen genummerd op aparte strookjes papier</li> <li>• Aantekeningenblad voor mijzelf ronde 1</li> </ul>
8 minuten	<b>Ronde 2:</b> <ul style="list-style-type: none"> <li>• De student krijgt de hele vragenlijst te zien en gevraagd wordt:</li> <li>• Wat vinden ze van de lengte van de lijst</li> <li>• Wat vinden ze van de volgorde van de lijst</li> <li>• Zijn er vragen die weggelaten kunnen/moeten worden</li> <li>• Missen ze nog items en zo ja welke?</li> </ul>	<ul style="list-style-type: none"> <li>• Aantekeningenblad voor mijzelf ronde 2.</li> </ul>
2 minuten	<b>Afsluiting en bedankje</b> Hierin vraag ik de student ook of ze de uitkomsten van het onderzoek willen ontvangen na afronding	<ul style="list-style-type: none"> <li>• Bedankje voor de deelnemers.</li> </ul>

**Aantekeningenblad ronde 1**

<b>Itemnummer</b>	<b>Item</b>	<b>Aantekeningen</b>
		<b>rondom formulering</b>

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1	De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.	
2	De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.	
3	De docent liet tijdens de les zien te beschikken over voldoende kennis van de beroepspraktijk van Social Work.	
4	Doordat de docent beroepsgerichte taken gebruikte kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.	
5	De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.	
6	De docent gaf tijdens de les feedback waarvan ik kon leren.	
7	Doordat de docent me tijdens de les liet oefenen met de lesstof begreep ik de lesstof beter.	
8	De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.	
9	De docent zorgde ervoor dat ik me tijdens de les actief durfde op te stellen.	
10	De docent stelde vragen die mij dieper deden nadenken over de lesstof.	

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11	De docent besprak in het begin van de les aan welke doelen ik ga werken.	
12	De docent daagde mij uit om te evalueren wat ik geleerd had tijdens de les.	
13	De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten	
14	De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten	
15	De docent zorgde ervoor dat ik tijdens de les wist wat er op welk moment van mij verwacht werd.	
16	De docent zorgde voor voldoende materialen (o.a. weblectures, literatuur, beeldmateriaal) die ik voor en tijdens de les kon gebruiken om te werken aan de lesdoelen.	

**Vragenlijst om te knippen in stroken voor ronde 1**

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Item 1: De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.

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Item 2: De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.

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Item 3: De docent liet tijdens de les zien te beschikken over voldoende kennis van de beroepspraktijk van Social Work.

---

Item 4: Doordat de docent beroepsgerichte taken gebruikte kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.

---

Item 5: De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.

---

Item 6: De docent gaf tijdens de les feedback waarvan ik kon leren.

---

Item 7: Doordat de docent me tijdens de les liet oefenen met de lesstof begreep ik de lesstof beter.

---

Item 8: De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.

---

Item 9: De docent zorgde ervoor dat ik me tijdens de les actief durfde op te stellen.

---

Item 10: De docent stelde vragen die mij dieper deden nadenken over de lesstof.

---

Item 11: De docent besprak in het begin van de les aan welke doelen ik ga werken.

---

Item 12: De docent daagde mij uit om te evalueren wat ik geleerd had tijdens de les.

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Item 13: De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten

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Item 14: De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten

---

Item 15: De docent zorgde ervoor dat ik tijdens de les wist wat er op welk moment van mij verwacht werd.

---

Item 16: De docent zorgde voor voldoende materialen (o.a. weblectures, literatuur, beeldmateriaal) die ik voor en tijdens de les kon gebruiken om te werken aan de lesdoelen.

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### Aantekeningenblad ronde 2 van de interviews

Vraag	Aantekeningen
<ul style="list-style-type: none"><li>• Wat vind je van de lengte van de lijst (te weinig/ voldoende/ goed/ te veel)</li></ul>	<input type="checkbox"/> Te weinig <input type="checkbox"/> Voldoende <input type="checkbox"/> Goed <input type="checkbox"/> Te veel
<ul style="list-style-type: none"><li>• Wat vind je van de volgorde van de lijst</li></ul>	<input type="checkbox"/> Goed <input type="checkbox"/> Kan beter namelijk:
<ul style="list-style-type: none"><li>• Zijn er vragen die weggelaten kunnen/ moeten worden en zo ja welke</li></ul>	<input type="checkbox"/> Nee <input type="checkbox"/> Ja, te weten:
<ul style="list-style-type: none"><li>• Mis je nog items en zo ja waarover zouden deze moeten gaan?</li></ul>	<input type="checkbox"/> Nee <input type="checkbox"/> Ja, namelijk:

### Vragenlijst voor ronde 2 van het interview

1. De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.
2. De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.
3. De docent liet tijdens de les zien te beschikken over voldoende kennis van de beroepspraktijk van Social Work.
4. Doordat de docent beroepsgerichte taken gebruikte kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.

## TEACHING QUALITY WITH REGARD TO ACTIVE LEARNING

5. De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.
6. De docent gaf tijdens de les feedback waarvan ik kon leren.
7. Doordat de docent me tijdens de les liet oefenen met de lesstof begreep ik de lesstof beter.
8. De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.
9. De docent zorgde ervoor dat ik me tijdens de les actief durfde op te stellen.
10. De docent stelde vragen die mij dieper deden nadenken over de lesstof.
11. De docent besprak in het begin van de les aan welke doelen ik ga werken.
12. De docent daagde mij uit om te evalueren wat ik geleerd had tijdens de les.
13. De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten
14. De docent begeleidde mij bij het kiezen van geschikte leeractiviteiten
15. De docent zorgde ervoor dat ik tijdens de les wist wat er op welk moment van mij verwacht werd.
16. De docent zorgde voor voldoende materialen (o.a. weblectures, literatuur, beeldmateriaal) die ik voor en tijdens de les kon gebruiken om te werken aan de lesdoelen.

*Appendix Five: Evaluation instrument for measuring content validity*

1. De docent zorgde tijdens de les voor opdrachten uit de beroepspraktijk van Social Work.
2. De docent lichtte de lesstof toe aan de hand van voorbeelden uit de beroepspraktijk van Social Work.
3. De docent beschikte tijdens de les over voldoende kennis van de beroepspraktijk van Social Work.
4. Doordat de docent mij liet werken aan beroepsgerichte taken, kreeg ik inzicht in wat ik van die taken al wel en nog niet kan.
5. De docent stimuleerde mij tijdens de les om verbanden te leggen tussen de lesstof en de beroepspraktijk.
6. De docent gaf tijdens de les feedback waarvan ik kon leren.
7. Door tijdens de les te oefenen met de lesstof, begreep ik de lesstof beter.
8. De docent liet merken dat mijn inbreng tijdens de les gewaardeerd werd.
9. De docent droeg eraan bij dat ik me tijdens de les actief durfde op te stellen.
10. De docent stelde vragen die mij dieper deden nadenken over de lesstof.
11. De docent besprak aan het begin van de les aan welke lesdoelen gewerkt ging worden.
12. De docent daagde mij uit om te evalueren wat ik tijdens de les geleerd had.
13. De docent bood tijdens de les de mogelijkheid om te kiezen uit verschillende leeractiviteiten.
14. De docent begeleidde mij tijdens de les bij het kiezen van geschikte leeractiviteiten.
15. De docent zorgde ervoor dat ik tijdens de les wist wat er van mij verwacht werd.
16. De docent zorgde voor voldoende lesmaterialen (o.a. weblectures, literatuur, beeldmateriaal) die ik kon gebruiken om te leren.