



MASTERTHESIS

*Effect of a PLC-based
intervention on the utilization
of feedback and teaching
quality*

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ABSTRACT

We know from research that feedback can have a strong performance-enhancing effect. In order to provide teachers more often with feedback on their lessons, researchers of the University of Twente developed the Impact! tool through which students and colleagues can provide feedback to teachers. However, in practice teachers are not able to improve their lessons by using the feedback on their own. Teachers often lack the right tools and guidance to use feedback and make sustainable changes in their teaching. Teacher participation in professional learning communities (PLC's) is considered a promising way to improve professional development, but does a PLC with guidance, a clear structure and a comprehensive set of guidelines indeed help teachers improve their teaching based on student feedback? The aim of this research was to develop a PLC based intervention and find an answer to the following research question: *What is the effect of a PLC-based intervention on teachers' utilisation of feedback and their teaching quality?*

For this research, a mixed-method research design was used. Quantitative and qualitative data were collected in different ways: a digital survey for teachers, student perceptions of teaching quality collected by means of the Impact! tool, a general student perception questionnaire about teaching quality, observations of the meetings and interviews. In this study, five schools have formed a PLC in the form of an Impact! team, each team consisting of at least six teachers and an Impact! coach. Based on previous research on effective characteristics for a PLC, a cyclic approach, called the Impact! cycle was developed for each team. All teams received training on how to use the Impact! tool and how to go through the Impact! cycle. Meetings and colleague observations were used to guide this process and a school Impact! coach was assigned to each team to provide guidance.

The results showed that a clear, logical set of guidelines and an Impact! coach who takes the lead, arranges meetings and sets clear goals are experienced as important factors for a successful PLC. Working in a team is also of added value, but a team should not be too big. Next to this, especially working with a colleague is seen as a valuable factor, however no one could experience this due to tight schedules. Therefore, school staff should schedule time off for participating teachers to do this.

In the end when looking at the main research question of this study, it can be concluded that a well-structured PLC does help teachers with the utilisation of feedback. The Impact! coach plays an important role within this PLC because without well-structured guidance teachers were not motivated or stimulated to work with the feedback. Also, working as a team was seen as valuable and motivating, however it is crucial that enough time is scheduled to work together. Unfortunately, it is hard to say whether teachers have also processed the feedback well and improved their lessons because due to the COVID-19 measures no effect on teaching quality could be measured.

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INTRODUCTION

In education, learning is a process of mutual influence for both teachers and students as they have a major impact on each other. By definition, feedback is essential to mutual influence (Bangert-Drowns et al., 1991) as feedback is about receiving a response, taking time to analyse, and then thinking of the best possible solution that can be chosen to improve and to perform better. Bangert-Drowns et al. (1991) state that feedback in education therefore should help to refine and develop both student performance as well as the instructional practice of teachers. Research by Tuckman and Oliver (1968) showed that especially feedback from students can lead to a positive change amongst teaching skills of teachers. Even though research has shown that feedback to teachers can have a strong positive effect on their teaching which in turn can positively influence student performance (Hattie & Timperley, 2007), in education often little energy is invested in constructive feedback to teachers for improvement (Frase & Streshly, 1994), and many teachers do not take student feedback seriously (Richardson, 2005).

In order to provide teachers with feedback, researchers of the University of Twente developed the Impact! tool. The Impact! tool is a digital feedback tool for teachers to obtain multi-source feedback from students and colleagues, and to judge their own lessons, right after the lesson. This feedback could promote teachers' insight into where they can improve their lessons. However, research by Bijlsma, Visscher, Dobbelaer and Veldkamp (2019) has shown that in practice teachers did not seem to reflect on their lessons more often after receiving Impact! Feedback. Also they weren't able to improve their lessons or to sustain improvements (Bijlsma et al., 2019). The question arises what is needed for a sustainable improvement of teaching quality based on feedback.

First, it is important to know why teacher improvement based on feedback is hard to realise. Reasons for this could be that feedback is often either not applicable or useful or that support in improving based on the feedback is absent. It does therefore often not result in instructional improvement (Frase & Streshly, 1994). Besides this, research by Felder and Brent (2018) has shown that school management teams often focus on the organisation of education itself for improvement and not directly on the teachers, which therefore often only results in changes in curricula, and not in changes of teaching in classrooms. It is also possible that feedback data is not used effectively by teachers, and that teachers lack tools and knowledge on how to utilize feedback (Kember, Leung, & Kwan, 2002). If there is no attention paid to use of data, or to identify areas that need improvement, it is impossible to help teachers develop their teaching skills (Kember et al., 2002). Next to this, Kember et al. (2002) state that when there is no incentive to use feedback data, teachers will put less effort into improving teaching quality as they do not feel motivated. Teachers also might not be open-minded to improve, because they consider themselves as good teachers (Kember et al., 2002). Overall, intrinsic motivation, positive encouragement from school leaders and the facilitation in coaching on how to utilize feedback effectively are considered important factors in the effective use of feedback. Ideally, there would be

enough support within schools to provide teachers with constructive feedback and the right tools to enable them to improve the quality of their teaching based on feedback.

Research has shown that teacher participation in a professional learning community (PLC) is considered a promising way to stimulate professional development (Prenger, Poortman, & Handelzalts, 2017). A PLC is based on a goal for improvement by either the school or someone external. PLC's consist of a group of teachers within a school or from different schools that come together to work in teams, engaging in an ongoing cycle to share knowledge and experience across different areas of education that they wish to improve (DuFour, 2004). The powerful collaboration that characterizes a PLC and the systematic process in which teachers work together have proven to be effective in improving teachers' knowledge and skills regarding reflection and keeping teachers motivated by working collaboratively (DuFour, 2004; Willeghems, Consuegra, Struyven, & Engels, 2017). In contrast to a single workshop, a PLC follows a more embedded, long-term, reflective, and collaborative structure that can support and motivate teachers to work on their goal of improvement (Nelson, Slavit, Perkins, & Hathorn, 2021). Overall, a PLC can contribute to the intrinsic motivation of teachers, positive encouragement from school leaders and the facilitation in coaching, which are considered important factors in the effective use of feedback.

The aim of this study is to set up a PLC investigate whether an intervention by means of a PLC can help to improve teaching quality based on feedback. This was done by focussing on how the intervention was carried out and experienced by the participating teachers. Feedback to teachers was given by means of the Impact! tool.

RESEARCH QUESTIONS

The following overarching research question will be answered in this study:

What is the effect of a PLC-based intervention on teachers' utilisation of feedback and their teaching quality?

Sub-question that help to help answer this main question are:

1) Observations

a. Which characteristics of an effective PLC are observed in the meetings of teachers during the intervention?

2) Questionnaire teaching quality Impact! tool and general questionnaire teaching quality

b. What are the effects of the intervention on teaching quality?

3) Digital teacher survey and interviews

c. How do teachers experience the PLC-based intervention?

THEORETICAL FRAMEWORK

In this research, the effect of a PLC-based intervention on teachers' utilisation of feedback for improving teaching quality is investigated. This theoretical framework first focuses on how to define and measure teaching quality, and on the factors that influence the quality and use of feedback, as these are two relevant concepts for this research project. Next, the focus is on the PLC-based intervention and on finding out why certain aspects of a PLC are effective for the utilisation of feedback and the development of teaching quality. To get insight into the elements that contribute to an effective PLC and to give guidance to the development of the PLC-based intervention, previous studies that already carried out the development of PLC's are analysed.

TEACHING QUALITY

According to Helms-Lorenz and Visscher (2021) defining teaching quality, enables one to actually measure it. However, there is not one simple definition of teaching quality, as teaching quality concerns different skills but also requires knowledge in different fields. According to Schulman and Schulman (2004), there are different elements that are important qualities for a teacher. For instance, teachers should be motivated to invest time in active learning, have a clear vision on education and student learning, and use different education concepts in their lessons, such self-regulated learning. Besides this, teachers should also be able to create a safe learning climate for their students, as this is seen as an essential condition for learning (Clapper, 2010; Winters, 2010). When students feel comfortable in a class and feel that they can safely take those risks that are part of exploration and constructivism, this can have great effects on learning (Clapper, 2010). To create such a safe learning environment teachers should have the ability to shape the direction that the student may take by fostering critical thinking, encouraging creative work, providing constructive feedback and encouraging students to learn from mistakes (Azer, 2005; Clapper, 2010).

Besides creating a safe learning environment, teachers should be able to motivate students and keep students motivated to work on the subject and get a high learning outcome (Gagné & Deci, 2005; Winters, 2010). Giving clear instructions to students is the basis for getting students actively involved in the learning process (Learning, 2002). To accomplish giving clear instruction, teachers should be able to for instance always state a clear learning goal, reflect on previously acquired knowledge, draw meaningful connections between knowledge and skills or real-life situations, and go step-by-step (Learning, 2002). Also, it is important that teachers keep in mind that not every student is the same and

should therefore be able to adapt their instructions to the varying needs of students and give personal attention to students when needed (Azer, 2005).

Taking the previous research into account, it can be concluded that it is hard to define teaching quality and capture the whole construct of teaching quality and measure it, because teaching requires many different skills. However, the Impact! tool is a suitable tool for measuring a broad construct of teaching quality. The Impact! tool is a digital feedback tool for teachers that focuses on several aspects of teaching such as creating a safe learning environment and effective instructional strategies. It is therefore suitable to measure a wide range of teaching skills. For the development of the items of the Impact! tool a literature study and several meta-analyses about effective teaching were conducted that resulted in a final set of items (Appendix seven) to measure teaching quality (Bijlsma et al., 2019). This set of items focuses on aspects such as learning climate, instruction, learning outcome and self-regulated learning, which are all aspects to measure and define teaching quality. Thus, it is concluded that the Impact! tool is suitable for collecting feedback and measuring a broad construct of teaching quality.

FEEDBACK

According to Schildkamp (2020), it is important to use data to check if goals in schools are being accomplished, to make better decisions and to anticipate to the learning needs of students. Also it's important to use data because assumptions based on intuition are not always correct. Data in the form of feedback is often seen as a key feature of effective learning, as feedback can facilitate reflection that can help to guide sustainable improvement (Embo, Driessen, Valcke, & Van der Vleuten, 2010). Bangert-Downs et al. (1991) state that feedback is one effective way to empower learners with useful information and to actively support self-regulation. Especially in a process of mutual influence between learners and their environment, feedback appears an essential element (Bangert-Drowns et al., 1991). Receiving feedback can also motivate someone to take responsibility for their own learning by reflecting on competencies and looking for new learning and improvement opportunities (Koh, 2008). Next to this, receiving feedback can give insight into what someone's strengths and weaknesses are so that someone can work on improving these aspects. Eraut (2004) argues that such insights create more confidence and commitment to really make a sustainable improvement or change.

Even though research shows these positive effects of receiving feedback, the effectiveness and utilisation of feedback depend on several factors, such as timing, frequency and content (Hatty & Timperley, 2007; Visscher, 2015). Also, the context in which the feedback is given, received and used plays an important role because without its context, feedback is less informative (Ryan, Mims, & Koestner, 1983). Research by Visscher (2015) shows that especially the frequency and content of feedback to teachers have a big influence on the learning performance of teachers. Preferable feedback is given on regular times a few times a year, right after a specific lesson, so the link between a lesson and the feedback can be made clear and progress can be measured over time (Timmers & Veldkamp,

2011). Regarding the content of feedback, Hattie and Timperley (2007) state that received feedback which is detailed and focused on a specific skill or instructional strategy often consists of more learning-related information, than feedback that is too broad. The Impact! tool, which is used in the intervention, contains items that are focused on specific skills and is, therefore, suitable to provide teachers with useful, detailed feedback about one single lesson.

Also, the effectiveness of feedback is influenced by who gives it. Research by Greller and Herrold (1975) shows that feedback through different sources can be more meaningful than feedback from only one source, as all sources differ in their degree of informativeness and can complement each other. Therefore, to obtain a rich picture of the quality of teaching, it is advised that teachers should be provided with feedback from different perspectives. For example, self-evaluations of teachers, lesson observations by an external observer and student perceptions of teaching quality. The Impact! tool is provided with questionnaires for teachers, students and external observers. The content of all questionnaires is similar, only the formulation of items slightly differs. The Impact! tool is therefore seen as a suitable instrument to provide feedback on teaching quality from three perspectives, namely student, colleague and self-evaluation.

Taking all the previous research into account, in the intervention, teachers should be advised to collect feedback immediately after a lesson to get the most valid feedback. Reason for this is that direct feedback is often more effective than postponed feedback (Van Beuningen et al., 2008). Next to this, teachers should collect feedback from a few different classes and also from a colleague to get the most reliable picture of the quality of their teaching. However, when analysing feedback, teachers should keep in mind that some lessons might have been more suitable to ask for feedback than others and that feedback differs between groups of students, depending on the relationship between the teacher and the students (Ryan et al., 1983). These are points to include in the interpretation of the feedback.

Besides the feedback itself, also the guidance and training in feedback use, appear to be important moderators for the effects of feedback on learning performance (Visscher, 2015). Regarding the process of guidance, factors within the school organization such as a safe innovation climate and collegial collaboration are important for better improving teaching quality (Vescio, Ross, & Adams, 2008). Furthermore, intrinsic motivation of the feedback recipient affects how the learner uses the feedback (Ryan et al., 1983). According to Bangert-Downs et al. (1991) the learners' degree of interest, kind of goal orientation, degree of self-efficacy, and degree of prior relevant knowledge have a big impact on the effectiveness of feedback. Thus, taking previous research into account, it is advised that guidance and training in feedback use are part of the intervention, as well as collegial collaboration. Support and training for teachers in learning how to collect feedback, how to use feedback and how to process this can be provided in a professional learning community (PLC) (Schildkamp et al., 2016). More information about a PLC and why it is effective for teacher development is described in the next section.

PROFESSIONAL LEARNING COMMUNITIES

Even though collecting feedback on teaching quality can be done relatively easy and quick using the Impact! tool, knowing how to derive meaningful information from data, knowing how to interpret feedback and knowing how to use this to improve teaching quality can be complex and requires guidance and skills. PLC's should therefore not only be used to focus on increasing knowledge and awareness of *what* needs to be improved, but also on giving teachers tools for focusing on *how* to improve (William, 2007). As stated above, this guidance can be provided through a professional learning community (PLC). Brown and Poortman (2018) define a PLC as a group that engages in collaborative learning with others from either within or outside their everyday community of practice. Such collaborative projects have proven to be a promising way to improve teachers' knowledge and skills regarding reflection, collaboration and student-centered teaching (Willekens et al., 2017). In the context of education, PLC's consists of a group of people that come together to share knowledge and experiences across different but relevant areas of education. This is done in a structured manner whereby the insights obtained are supposed to be practically applied in order to improve student performance (Hord, 1997).

Research has shown that there are several characteristics of a PLC that influence the effectiveness of reaching the broader goal that is set within a PLC. In the current study, this goal is improving the teaching quality by feedback utilisation. For instance, several researches have shown that characteristics for a PLC, such as having a shared learning goal; collective responsibility for learning; collaboration; individual as well as collective professional learning; leadership; enough time; openness, networks and partnerships; and mutual trust, respect and support all contribute to the effectiveness of a PLC (Bolam et al., 2005; Brinkhorst & Poortman, 2017; Hipp & Hufmann, 2010; Prenger et al., 2017; Stoll, Bolam, McMahon, Wallace & Thomas, 2006; Vescio et al., 2008). Using this literature, characteristics of a PLC that are considered effective for the development of teaching quality are described below.

Common goal

A growing number of school leaders shift their attention to PLC's as a way to improve teaching quality (Blankenship & Ruona, 2007; Brown & Poortman, 2018; Prenger et al., 2017; Schaap & Bruijn, 2018). A PLC is always focused on a broad, underlying goal (e.g. the implementation of differentiation in lessons, improving teaching quality or the creation of new teaching materials; Blankenship & Ruona, 2007; Prenger et al., 2017; Schaap & Bruijn, 2018). It is important that everyone who participates in a PLC is aware of this goal, and supports this goal or vision. This makes participants feel that they belong to the group, which enhances participation (Prenger et al., 2017). Research on teacher development teams by Brinkhorst and Poortman (2017) showed that it is important to explicitly discuss whether everyone can find the purpose of the chosen goal, otherwise, there is a risk that participants might have different interpretations of the goal. Thus, the PLC-based intervention should focus on a broad goal and

everyone should be aware of this. However, people within the PLC can also have a more specific individual goal to work on for themselves that contributes to the overarching goal.

Period of time

Research has shown that in order to be effective for teacher learning, a professionalization activity should not be a one-off, but rather takes place for a longer period of time (Binkhorst & Poortman, 2017; Butler & Schnellert, 2020; Ebbeler, Poortman, Schildkamp, & Pieters, 2016; William, 2007). Reasons for this are that you need to have enough time to actually work on sustainable improvement and a longer duration creates more opportunities to have feedback moments and find out if you are actually making progress (Binkhorst & Poortman, 2017). Also, research has shown that the use of data, in this case feedback, is not a linear process and that teachers should therefore go through the process of collecting and analysing feedback several times in order to reach better learning outcomes and get effective results (Ebbeler et al., 2016; Schildkamp & Poortman, 2015; Schildkamp et al., 2016). However, it is hard to say how long a professionalization process should exactly take because that strongly depends on the context. On the one hand, you would say the longer the better because it creates more opportunities for professionalization, but this can lead to an increased workload for teachers. Overall, for the PLC-based intervention it is advised that the professionalization process is a cyclic process that takes place multiple times over a longer period of time.

Leadership

The way a PLC is managed can influence the outcomes (Binkhorst & Poortman, 2017). For this reason, a good leader is important for a PLC to be effective. Good leadership is defined as someone who takes initiatives, invests time for arranging meetings and supports all participating teachers in their learning (Schildkamp & Poortman, 2015). Furthermore, it also means creating a safe learning environment by taking the lead during meetings and enabling everyone to speak for themselves and fully participate in all activities (Bolam et al., 2005; Timperley, Wilson, Barrar, & Fung, 2008). Leadership behaviour, such as ensuring a climate for learning, intellectual stimulation, and support for learning, are seen as crucial in the promotion and sustaining of a PLC (Schildkamp & Datnow, 2020). According to Timperley et al. (2008) in most educational jurisdictions, designated leaders have responsibility for promoting professional learning and development opportunities for teachers. Such leaders may undertake multiple roles, depending on their positions and expertise, inside or outside the school environment (Timperley et al., 2008). Overall, for the PLC-based intervention developed for this study, a leader from within the school is assigned to each team and a special training to those leaders is given so they know how good leadership behaviour can lead to work on improving the quality of teachers' teaching.

Collaboration

According to Prenger et al. (2017), collaboration in a PLC is important as everyone has to work together and be involved in all collaborative activities to get the best learning outcome. Besides this, the motives

of someone for participating in the PLC are crucial for the learning outcome (Binkhorst & Poortman, 2017). Research shows that when participants are self-motivated to participate and really want to change something in their education, they are more willing to work together and learning outcomes are relatively higher (Binkhorst & Poortman, 2017). If teachers are open to sharing their knowledge and experience with each other, they can learn a lot from each other. In addition, it is important that participants provide support and feedback to each other and involve everyone (Binkhorst & Poortman, 2017). However, participants are also expected to carry out activities outside the collaborative meetings such as collecting data or implementing what is being discussed (Binkhorst & Poortman, 2017). A PLC should also promote this type of individual learning by clearly stating what is expected from participants outside the collaborative meetings. As stated earlier, good leadership can facilitate in creating a safe learning environment and involving everyone, but a good leader is also expected to make agreements on what is expected from teachers outside the meetings. Thus, it is advised that teachers voluntarily participate in the PLC, are self-motivated and willing to work together and share personal information. The role of the leader is crucial in involving teachers and promoting collective as well as individual learning.

Schools

Staff in schools wishing to promote and sustain a PLC should create enough opportunities for participating teachers to actually work on the process of professionalization and to take appropriate follow-up actions to maximize the effect on teaching quality (Bolam et al., 2005). Schildkamp and Poortman (2017) state that school staff must offer possibilities for teachers to participate in a PLC by, for instance, scheduling time free in the teachers' schedule to work on professionalization. Also, it cannot be expected that participants can implement what they have learned during their sessions on their own, which means that support is also needed in their daily practice, next to the collective meetings (Butler & Schnellert, 2020; Ebbeler et al., 2016; William, 2007). Schildkamp and Poortman (2017) state that this can be done by providing personal support to teachers. Therefore, someone within the school should be assigned to provide personal support to teachers and time should be scheduled to do so.

Conclusion

Overall, the use of a PLC is supposed to be an effective way to improve teaching practices and therefore to foster change in teaching quality. Participation in a PLC can improve teaching quality as there is more focus on continuous learning, student learning, teacher authority, and collaboration. Taking the previous research into account, it can be concluded that the PLC-based intervention should have at least the following characteristics to be effective for the development of teaching quality:

- ❖ A PLC should focus on a collaborative, overarching goal, and everyone should be aware of this, but participants can define their own more specific goal to reach the overarching goal.
- ❖ A PLC should be a structured, cyclic process that takes place multiple times over a longer period.

- ❖ A leader should be assigned to each PLC and special training should be given to those leaders so they know how specific leadership behaviour can lead to higher learning outcomes.
- ❖ All participants should voluntarily participate in the PLC and be self-motivated.
- ❖ A PLC should promote individual as well as collective learning, which can be stimulated by the leader.
- ❖ All participants in a PLC should be open to work together and share personal information. A leader should create a safe learning environment.
- ❖ School staff should provide required materials if necessary and should schedule time free for teachers to participate in a PLC.

RESEARCH METHOD

This research project aimed to measure the effect of a PLC-based intervention on the utilisation of feedback and teaching quality. The first step was to develop guidelines for a professional learning community in which teachers use student-, self-, and colleague feedback to improve their teaching quality. The guidelines for the PLC in this study were based on the results of the theoretical framework. In the following section, the procedure of the intervention is described.

PROCEDURE

In this study, teachers used the Impact! tool to collect feedback from students and colleagues and to reflect on their own lessons. However, even with a useful instrument to provide feedback to teachers, the impact of improvement-oriented actions based on the received feedback also depends on how teachers are guided in this process. Therefore, a professional learning community was formed within each participating school.

According to the PLC characteristics mentioned in the theoretical framework of this study, support of the school staff, leadership, and available time and tools were important. Also, it was concluded that a structured, cyclic approach has a positive effect on the learning outcome of a PLC. However, the content of this cyclic approach depends on the goal of the PLC. In this research, the focus of the PLC is on the utilisation of data in the form of feedback for improving teaching quality.

There are several data use models and frameworks. For this study, a cyclic approach was formed based on the cyclic, iterative approach for data teams by Schildkamp and Ehren (2013). The reason why this approach was chosen is that the data team procedure has several aspects that can promote collective learning in a PLC (Schildkamp et al., 2016). The cyclic approach for this intervention was called the Impact! cycle (Figure 1). In this study, the PLCs were called Impact! teams and the coaches of each Impact! team were called Impact! coaches. Each school had to assign at least one Impact! coach for each Impact! team who had the responsibility of arranging meetings and providing personal guidance to all participating teachers. The Impact! cycle had the purpose to support teachers in the utilization of feedback and guiding them through the process of processing feedback. Because the use of feedback to improve teaching quality is not a linear process, it was advised that each Impact! team had to go through this Impact! cycle at least twice in order to accomplish better learning outcomes.



Figure 1: Impact! cycle

The Impact! cycle contained the following phases:

1. *Collect data:* In the first phase of the Impact! cycle, teachers started with collecting feedback on their lessons by using the Impact! tool. Teachers were encouraged to collect feedback from at least three different classes. The student feedback was always given anonymously, so students did not feel afraid to give their honest opinion. Besides receiving feedback from their students, teachers were advised to use the Impact! tool to reflect on their own lessons. Finally, they had to observe at least one lesson of a colleague using the Impact! tool and let the same colleague observe their lesson (they were called 'buddies'). This colleague was also part of the Impact! team and therefore knew about the cyclic process. Forming buddies within the Impact! team had the benefit of working closely together throughout the entire Impact! cycle and each buddy learning from one another. At the end of the first phase, teachers received feedback from two different perspectives, namely, from the students and from a colleague. They also gave an assessment of their own lesson.
2. *Analyse data:* After collecting the feedback data, each teacher analysed and interpreted the feedback in the second phase of the Impact! cycle. Results were clearly displayed for each teacher in their personal web environment of the Impact! tool. The clear overview of all the feedback enabled the teachers to convert their feedback into valuable information. Moreover, to get a better understanding of the feedback, teachers were encouraged to have conversations with their students and their buddy. This enabled teachers to ask clarifying questions about the feedback and to find the strengths and areas of improvement of his/her lesson. Talking with students about the feedback would make students feel taken more seriously. At the end of this second phase, teachers should have a clear vision of their professional strengths, points of improvement and striking results.
3. *Make a plan for improvement:* In the third phase of the Impact! cycle, teachers came together to work on their plan for improvement. This meeting was led by the Impact! coach to keep it structured. Teachers were encouraged to discuss their results and any striking remarks. As a follow-up, everyone wrote their own plan of improvement. This plan should be based on one point of improvement, resulting from the analysis phase. Each teacher decided what his/her focus of improvement was. For instance, teachers could focus on time management, differentiation, or interactive instructions. It could also be the case that the team would collaboratively decide to all focus on the same point of improvement. When teachers decided what point of improvement they wanted to focus on, they developed some improvement-oriented actions. Teachers also thought about what is needed for implementing these actions, how to monitor the improvement and what deadlines had to be set. By the end of the meeting, the plans for improvement were shared within the PLC to provide feedback or tips on each other's work. For the Impact! coach it was recommended to set specific dates and times for new meetings, observations or personal coaching at the end of the meeting, to keep everyone focused on their learning process and involved.

4. *Implementing improvement measures:* In the fourth phase of the Impact! cycle, the teachers had to implement their plan for improvement by carrying out their improvement-oriented actions. The Impact! coaches were encouraged to monitor all teachers during this phase, to talk with them regularly, and help them when they got stuck in the process, so the teachers would stay motivated.
5. *Reflect:* In the final phase of the Impact! cycle, teachers assembled to reflect on their improvement process, on the use of the Impact! tool, the improvement-oriented actions taken so far, the cooperation with their buddy and the entire Impact! cycle. It was advised to the Impact! coach to structure this meeting according to the design of PLC meetings by William (2014), who states that it is important that meetings are provided in a clear structure for teachers, especially when a lot needs to be discussed. Impact! coaches should start this meeting by sharing the goals of the meeting with the teachers. Next, teachers could reflect on the progress and results of the past few weeks and discuss their experiences and how this Impact! cycle could lead to sustainable improvement of teaching quality. It was advised to end the meeting by discussing which step to take next, so teachers could continue the process. Teachers could for instance start again with phase one of the cycle by collecting new feedback to find out whether they have improved during the past few weeks. Teachers should ask the same classes to provide feedback as during the first cycle so that they are able to compare the results. Based on this feedback they could decide to work on the same point of improvement or a new one.

The entire Impact! cycle last for eight weeks as shown in Table 1:

Table 1: Plan Impact! cycle

Phase	Week	Method
01: Collect data	Week 1 & 2	Individual
02: Analyse data	Week 1 & 2	Individual
03: Draw up plan of improvement	Week 3	Collaborative meeting 1
04: Implement improvement measures	Week 4 t/m 7	Individual
05: Reflect	Week 7/8	Collaborative meeting 2

For all participating teachers, a manual (Appendix one) was designed, containing information on each phase of the Impact! cycle and auxiliary documents with tips and formats that could be used throughout the Impact! cycle. Also, a special manual for the Impact! coaches (Appendix two) was designed. This manual contained information about the Impact! cycle from the point of view of the coach and some tips on how to lead meetings and coach efficiently and effectively. Finally, a manual was created for the school leaders too (Appendix three), because support, explicit promotion and sustaining of a PLC by the school leaders would contribute to the effectiveness of the PLC. This manual

contained information on the Impact! cycle and some clarification about the role of the school leaders in the Impact! cycle process.

Before starting with the Impact! cycle, all Impact! coaches followed an introduction training (Appendix four). This training provided information about the Impact! cycle and how the Impact! tool is meant to be used. Additionally, background information about research on (student) feedback was presented. During this meeting, the Impact! coaches also received information on leadership, tools for leading the PLC meetings and several tips about effective coaching. At the end of this meeting, the coaches were encouraged to make a plan for the Impact! cycle that they could share with their Impact! team. As a follow-up, training was given to all Impact! teams separately. During this training, teachers learnt how to use the Impact! tool, how to go through the Impact! cycle and they received information about what was expected from them during the entire process.

PARTICIPANTS

Five schools, all belonging to the same school board, participated in this study and have formed one or more Impact! teams in school (Table 2). Each of the Impact! teams in schools consisted of about ten teachers. Most participating teachers were starting in-service teachers and pre-service teachers. This was determined by the school board because they thought that starting in-service and pre-service teachers could benefit most from this collaborative project as a complement to the coaching trajectory for starting teachers that already existed in the schools. However, there were some exceptions of experienced teachers who participated in the intervention as well. The subject in which they teach and at which educational level differed (Table 2). The participating teachers were approached in cooperation with researchers from the Impact! project at the University of Twente. Participants in this study were informed about the purpose of this study and have given verbal consent to participate and use their data for the explained purposes.

Teachers were asked to use the Impact! tool in at least three different classes per cycle and to obtain feedback from their buddy at least twice per cycle. Next to this, they were asked to go through the cycle at least twice. The students who gave the feedback are from different educational levels, varying from practical and lower general secondary education up to and including pre-university education. Students anonymously provided feedback to their teachers.

Table 2: Description of participating schools

	Educational level according to the Dutch secondary school system	Number of Impact! coaches	Number of participating teachers	Number of Impact! teams
School 1	Senior general secondary education & Pre-university education	4	17	2
School 2	Lower general secondary education	1	7	1
School 3	Senior general secondary education & Pre-university education	2	12	2
School 4	Practical education	2	6	1
School 5	Lower general secondary education	2	13	1

DATA COLLECTION AND ANALYSIS

To answer the research questions, a mixed-method design was used. Quantitative and qualitative data were collected in different ways: a digital survey for teachers about how they experienced the Impact! cycle; student perceptions of teaching quality collected by means of the Impact! tool; a general student perception questionnaire about teaching quality; observations of the meetings; and interviews with participating teachers and Impact! coaches about how they experienced the Impact! tool and Impact! cycle. Before starting to collect data, the ethics commission of the University of Twente was asked for approval for this study. In the following section, the way the data was collected and analysed are described.

Observations

In the first part of the intervention, observations were conducted to answer the first sub research question: *Which characteristics of an effective PLC are observed in the meetings of teachers during the intervention?* This question contributed to answering the main research question because it needs to be known whether the characteristics of an effective PLC are well executed or not to be able to draw conclusions on the effect of the intervention.

Instrument

Observations during phase three and phase five of the Impact! cycle were conducted at different teams, to find out how coaches led the general meetings and whether all characteristics of an effective PLC came back in those meetings. For these observations, an observation form was developed (Appendix eight). This form focusses on several aspects that were stated in the theoretical framework as being essential for an effective PLC. For instance openness, trust, optimising structure, promoting individual and collective learning, and leadership by the Impact! coach. To find out whether these aspects were reflected during the meetings, attention has been paid to whether: the meetings started on

time; the Impact coach structured the meetings; whether clear goals were set at the start and end of the meeting; whether there was time for discussion with each other; and whether every member attended the meeting. These are used as indicators for the characters of an effective PLC such as good leadership, an optimising structure and stimulating collective learning.

Data collection

Impact! teams were at least observed once by means of an observation form in either phase three or five of the Impact! cycle. Notes were made about the different criteria of an effective PLC as stated on the observation form. Next to this, it was written down what was being discussed with regard to the Impact! tool and Impact! cycle. Overall, the observation focussed on how the coaches lived up to the instructions of the Impact! cycle and how teachers participated in the meetings.

Data analysis

Qualitative observational data were summarized. These short reports were useful in concluding whether the provided information on the Impact! cycle was clear, what teachers encountered when following the Impact! cycle and how they approached the Impact! cycle. Next to this, it was compared whether there were differences between the Impact! teams and how this could be linked to the way people lived up to the characteristics of effective PLC's.

Questionnaire teaching quality Impact! tool

The questionnaire from the Impact! tool and a general questionnaire on teaching quality were used to answer the second sub research question: *What are the effects of the intervention on teaching quality?* By researching the effects of the intervention on teaching quality, this can be used as an additional substantiation to show whether teachers have made recognizable changes in their teaching during the intervention. However, one should keep in mind that teachers might have also gone through the intervention without a measurable effect.

Instrument

In the second stage of the research also questionnaires were used to answer the following research question: *What are the effects of the intervention on teaching quality?* The effect on teaching quality was first measured using the Impact! tool. The Impact! tool is a smartphone application that allows teachers to ask students to provide feedback after a lesson to measure how students have perceived the lesson. Teachers were asked to use a set of questions developed by researchers which enabled students to rate their teacher on 24 different statements that could be answered on a four-point Likert scale: "totally disagree," "disagree," "agree" and "totally agree." For instance, whether the teacher always states the learning goals at the start of the lesson, or whether the teacher always makes sure that everyone understands the learning material. Moreover, the Impact! tool could also be used to ask colleagues for feedback and to make a personal reflection on the lesson using the same 24 statements,

formulated slightly different. This enabled teachers to compare the feedback of students with the feedback of colleagues and their personal idea of their teaching quality.

Data collection

Every participating teacher was asked to use the Impact! tool for collecting feedback during the first phase of the first time they went through the Impact! cycle, the first phase of the second time they went through the Impact! cycle and in the end to find out their personal progression. This would result in three measures per teacher. However, only the first and last measurements of each teacher per class were used to find out whether they had made progression during the intervention. Teachers were advised to collect feedback from at least three different classes, at least twice from a colleague and once by themselves. School leaders gave permission for using the data of the teachers, by accepting the terms of conditions for using the Impact! tool. The collected data by teachers was used to investigate the development of teachers' teaching quality over time.

Data analysis

By means of student perceptions, students rated their teacher and indicated whether they “totally disagreed,” “disagreed,” “agreed” and “totally agreed” with 24 different statements about the lesson just taught. These ratings were used to identify whether, according to the students, a teacher masters a specific skill or not. Ratings of the first and last measurement per class per teacher were supposed to be compared, to identify the development of teachers' teaching quality over time. Also, the ratings by colleagues and the self-assessments of teachers over time should have been compared to identify the change in teaching quality. Unfortunately, due to COVID-19 measures schools were closed for several months. This caused all schools not to continue with the project as planned. In the end, only schools 2, 3 and 4 finished the Impact! cycle once, but most teachers were not able to collect data twice. Therefore, this analysis could not be performed.

General questionnaire teaching quality

Instrument

Because feedback collected by the Impact! tool focuses on one specific lesson, data on the overall teaching quality was provided through another (paper-based) survey (Appendix seven). This survey enabled students to rate their teacher on the same 24 different statements as provided by the Impact! tool that could be answered on a four-point Likert scale: “totally disagree,” “disagree,” “agree” and “totally agree.” However, in this paper-based survey the statements were formulated more general and therefore focussed on the overall teaching quality and not on one specific lesson. This way, a change in the overall teaching quality of teachers over time by means of student perceptions was investigated.

Data collection

Each participating teacher had to choose one class to fill out this paper-based questionnaire at the beginning and the end of the entire intervention as a pre and post measurement. The ratings were analysed by comparing the differences between the pre- and post-test results. The scores were also compared between the different Impact! teams, to find out whether factors such as the Impact! coach, school environment and composition of the team have an influence on how teachers have used the tool.

Data analysis

The data collected with the paper-based questionnaire was entered into Excel. The scores on each skill were scaled on a scale of 1 to 4, where “1” indicated that a student totally disagreed with a statement and “4” indicated that students fully agreed with a statement. A score of “0” was entered for missing data. The ratings of students on the pre- and post-test were supposed to be used to analyse if a teacher had improved his or her general teaching skills during the intervention. Next to this, the scores per school should have been compared to find out the differences per Impact! team. However, due to the COVID-19 measures this analysis could not be performed, because most teachers were not able to do a post-test in class because schools were closed for several months.

Digital teacher survey

After the intervention, a digital teacher survey and interviews were conducted to answer the final sub research questions: *How do teachers experience the PLC-based intervention?* Researching these different experiences contributes to answering the main research question,

Instrument

In the third stage of the research, a digital teacher survey and interviews were used to answer the last sub research question: *How do teachers experience the PLC based intervention?* First, a digital survey (Appendix six) was used. This survey was made in Qualtrics, a web-based survey tool that enables users to easily build and conduct survey research and analyse responses. The survey consisted of open as well as closed questions. Some example questions were: “how often have you used the Impact! tool during the project?”, “what were the points of improvement for your lessons based on the feedback?” and “which improvement measures have you taken?” Next to this, participants had to reflect on several statements that could be answered on a four-point Likert scale: “totally disagree,” “disagree,” “agree” and “totally agree”. Besides this, some multiple-choice questions were given in which there was also room for teachers to provide their own answers. For example: “the Impact! tool motivated me to ask feedback to students”, “going through the Impact! cycle can lead to a sustainable improvement of my teaching quality” and “with whom have you discussed the feedback you have gotten?” At the end of the survey there was room for teachers to comment on the Impact! tool and/or the Impact! cycle.

Data collection

All participating teachers received an invitation to anonymously fill out the survey. This was done between phase five and phase one of the Impact! cycle, because it was important that the teacher had gone through all phases of the Impact! cycle before answering the survey. The survey mainly focused on all five phases of the Impact! cycle. The questionnaire was given twice to find out if there were any differences between the first and second time that teacher followed the Impact! cycle. For instance on the number of times they used the tool or the improvements measures they took. Overall, the goal was to collect quantitative data about how the teachers experienced the different phases of the Impact! cycle and whether the Impact! cycle overall contributed to the utilisation of student feedback.

Data analysis

The data collected with the digital survey was entered into Excel. Scores were analysed by means of frequencies and an average score of all teachers was computed. The scores of the first survey and second survey were compared to find out if utilisation of student feedback increased throughout the process and whether teachers got more used to the Impact! tool and cycle. The scores were also compared between the different Impact! teams, to find out whether factors such as the Impact! coach, school environment and composition of the team have an influence on how teachers have used the tool.

Interviews

Instrument

To find out how teachers and coaches experienced the Impact! tool and cycle, semi-structured interviews were conducted at the end of the project. Semi-structured interviews were chosen for this research because there was only a small number of respondents and every respondent approached the cycle differently. Therefore this was a suitable way to adjust the questions to each individual based on the answers they gave. Questions were asked about the usability of the tool, the role of the coach, the collaborative meetings, the approach of the Impact! cycle and some questions about the experience in general. An overview of the questions can be found in Appendix nine.

Data collection

For these interviews participants were asked to participate by sending them an invitation email. From each participating school, all coaches and two participating teachers were mailed. This was done to get feedback from different experiences within the schools. Three coaches from different schools and four teachers from different schools participated in the interview. These interviews were held through an online platform. During the interviews, voice recordings and notes were made of the interview data. Permission for audio recording was given by the teacher at the beginning of the interview.

Data analysis

After all the interviews had taken place, a description was made of these notes and recordings. Qualitative data of the interviews were summarized. For both the interviews with the coaches and with the teachers the answers were merged to a description of the main findings. These short reports were useful in concluding whether the provided information on the Impact! cycle was clear, what problems participating coaches and teachers faced and how they experienced the Impact! tool and cycle. Next to this, it was compared whether teachers from different schools had different experiences, and what were the causes of these different experiences.

RESULTS

In this section, the results of the study are presented. These results can be used to further develop and improve the PLC-based intervention, which in return will help to improve teaching quality and the effective use of feedback.

STAGE 1 – DURING THE INTERVENTION

Observations

Observations during phase three and phase five of the Impact! cycle were conducted at different teams, to find out how coaches led the general meetings and whether all characteristics of an effective PLC came back in those meetings. Unfortunately, due to COVID-19 measures schools had to be closed for several months. For this reason, some schools continued with online meetings. However, school 5 decided to stop with the project and to continue next school year. School 1 decided to cancel the meetings after the first one and let teachers work on the Impact! cycle on their own. At school 4 the Impact! coach left halfway through the project, which meant that a new Impact! coach had to lead the Impact! team. They, therefore, decided that they did not want the meetings to be observed because they first wanted to rearrange things within their team. In the end, only a few meetings of schools 2 and 3 have been observed (Table 3).

Table 3: Observed meetings

	School	Date	Phase	Form
Observation 1	School 2	07-12-2020	3	Physical
Observation 2	School 3	15-12-2020	3	Online
Observation 3	School 3	19-01-2021	5	Online

Observation 1

The first observation was conducted at school 2 during phase 3. The start of the meeting was a bit chaotic because everyone had to come directly from their last lesson. There was not a clear structure, because the Impact! coach did not make a plan for the meeting beforehand. First, everyone got the opportunity to share his or her experience about what has been done so far. The Impact! coach asked everyone to share how they experienced collecting data, how they have done this, and whether there were any striking results. This caused everyone to become actively involved in the meeting and share some personal information. Because of the fact that the Impact! coach had spoken to everyone in person during the past few weeks and because she was very open and approachable everyone shared his or her results. Next to this, everyone was willing to help each other and give some tips based on personal

experience, which led to some informative discussions. The Impact! coach led these discussions and reflected on all things that were said.

After sharing experience about gathering data, the Impact! coach asked everyone what steps they were planning on taking next. This was more difficult for the teachers to answer. Everyone reflected on their learning goal, but no one was able to state how they wanted to work on this goal. The Impact! coach did not give any tools or tips and also focussed on the learning goals and not the actions to take. By this time, the meeting was also almost finished so there was no time to actually work on the plan of improvement. Therefore the Impact! coach asked everyone to send their plan of improvement to her by email.

Observation 2

The second observation was at school 3 during phase 3 of the Impact! cycle. By now, meetings were scheduled online due to the COVID-19 measurements. The Impact! coach had prepared the meeting very well and everyone was on time. A clear structure was made about what should be discussed and this planning was shown to all teachers before the meeting started. First, everyone had to share how they experienced using the Impact! tool and whether there were any striking results. Everyone was involved and felt comfortable sharing their results.

After sharing experiences about what has been done so far, the teachers split up into smaller break-out rooms, in which they had to decide on their learning goal and work on their plan of improvement. Because these groups were smaller, everyone was actively involved and everyone could discuss in detail what they wanted to work on and how they wanted to do this. This gave the teachers the opportunity to already finish their plan of improvement by the end of the meeting and immediately receive feedback from colleagues.

The end of the meeting was again with all teachers together. There was a short reflection on how teachers experienced working on their plan of improvement. Finally the Impact! coach stated exactly what they had to do in the coming weeks. Also, the next meeting was scheduled and the Impact! coach stated what she experienced from the participating teacher by then.

Observation 3

After a few weeks, the teachers of school 3 again met online for their final meeting of phase 5. Again the Impact! coach prepared a well-structured meeting, which started with splitting up in break-out rooms to discuss the experiences of the project in smaller groups. By working in smaller groups again everyone was actively involved. Next to this, the Impact! coach gave the teachers some guiding questions to talk about to keep the discussion going. For instance how they experienced the Impact! tool and cycle, how they worked on their plan of improvement and whether they have made any remarkable

progression. The Impact! coach switched between groups to be able to speak to everyone and give guidance when necessary.

After splitting up into smaller groups, the whole team came together for a joint closure. This was again led by the Impact! coach who had several questions for the team. For instance, whether the intervention led to new insights, what steps teachers want to take next, and if they think the project led to a sustainable improvement of their lessons. Because it was an online meeting, the Impact! coach used a digital program to ask questions and then immediately discuss all answers within the group. Also, there was the opportunity for teachers to provide tips and feedback to the Impact! coach, because the Impact! coach wanted to restart the project with a group of new teachers.

Conclusion

Two schools could be observed and there was a clear difference in the way the Impact! coach structured the meetings and how this affected the Impact! team (see Table 4). At school 2 the Impact! coach did not give a clear structure to the meeting. This caused running out of time and having no time left to work on a plan of improvement during the meeting of phase 3. Also, teachers did not come to the meeting well-prepared, because no clear agreements had been made beforehand. However, the coach was able to create a safe learning environment in which all teachers actively participated, by giving everyone the opportunity to share their experiences so far. At school 3 the meetings did have a clear structure which enabled the team to discuss a lot and work on the intervention during the meetings. Splitting up into smaller groups caused everyone to be actively involved and provide feedback to each other. Also, the Impact! coach gave clear goals and expectations which helped teachers in coming prepared to the meeting. In the end, a well-structured meeting, with a clear set of guidelines has proven to be an incentive to get everyone actively involved.

Table 4: Overview observations

Characteristics of a PLC	Observation 1	Observation 2	Observation 3
The meeting started on time	No	Yes	Yes
All team members were present	Yes	Yes	Yes
The Impact! coach guided the meeting	Yes	Yes	Yes
The meeting was well-structured	No	Yes	Yes
Everyone was actively involved during the entire meeting	No	Yes	Yes
Participants felt comfortable sharing personal information	Yes	Yes	Yes
At the end of the meeting, everyone knew what to do next	No	Yes	Yes
The meeting started with clear goals	No	Yes	Yes
Everyone had the opportunity to discuss their experiences	Yes	Yes	Yes
There was an opportunity to provide feedback to each other	Yes	Yes	Yes
Goals were set for the next meeting	No	Yes	No

Questionnaire teaching quality Impact! tool

Due to the COVID-19 measures, secondary schools in the Netherlands were closed for several months. This caused the intervention to be nearly idle for that period, due to the fact that teachers did not teach their classes in person anymore. Lessons had to be given online and less time was scheduled for each lesson. When schools slowly started to re-open, only small groups of students per class were allowed to follow their lessons at school. This contributed to a lot of extra work for teachers, which resulted in less time to work on the intervention. In the end, too few teachers were able to use the Impact! tool to collect feedback from their students and colleagues at the start and end of the intervention. Due to this, there is not enough data to present representative conclusions. Therefore, it has been decided that the questionnaire is not further included in this study.

General questionnaire teaching quality

See results *Questionnaire teaching quality Impact! tool*.

STAGE 2 – AFTER THE INTERVENTION

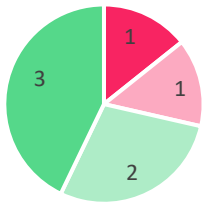
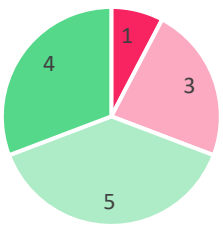
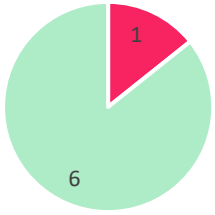
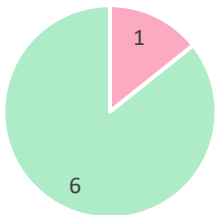
Digital teacher survey

After going through the entire Impact! cycle, participating teachers who actually finished the Impact! cycle received a digital survey (Appendix six). It was planned to send this survey twice, as teachers were advised to go through the Impact! cycle twice. However, due to the COVID-19 measures, no school finished the Impact! cycle twice, and only three schools managed to finish the Impact! cycle once. In the end, only seven teachers participated in the digital survey (Table 5). Results are shown in Table 6.

Table 5: Participants digital teacher survey

	Finished the Impact! cycle once	Finished the Impact! cycle twice	Number of participating teachers	Number of teachers who filled out the survey
School 1	No	No	17	0
School 2	Yes	No	7	0
School 3	Yes	No	12	5
School 4	Yes	No	6	2
School 5	No	No	13	0

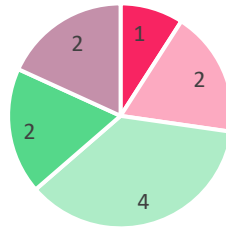
Table 6: Results digital teacher survey

Topic	Question	Answer																																
Phase 1: Collecting data	How often did you use the Impact! tool in class during the intervention?	 <ul style="list-style-type: none"> ■ Once ■ Twice ■ Four times ■ Six Times 																																
Phase 2: Analysing data	What did you do with the feedback from the Impact! tool? (Multiple answers possible).	 <ul style="list-style-type: none"> ■ Discuss with students ■ Discuss with the Impact! coach ■ Discuss with a colleague ■ Discuss within the Impact! team 																																
Phase 2: Acceptance of data	Do you agree with the following statements... <i>a) the feedback shows the strong points of your lessons.</i>	 <ul style="list-style-type: none"> ■ Totally disagree ■ Disagree ■ Agree ■ Totally agree 																																
	<i>b) the feedback shows the points of improvement of your lessons.</i>	 <ul style="list-style-type: none"> ■ Totally disagree ■ Disagree ■ Agree ■ Totally agree 																																
Phase 3: Formulating point of improvement	What is your point of improvement after reading the feedback. (Multiple answers possible).	<table border="1"> <thead> <tr> <th>Point of improvement</th> <th>#teachers</th> </tr> </thead> <tbody> <tr><td>Indicate learning goals</td><td>1</td></tr> <tr><td>Explain more clearly</td><td>1</td></tr> <tr><td>Connect the lessons with what students already know</td><td>1</td></tr> <tr><td>Keep an eye on whether students understand the learning material</td><td>2</td></tr> <tr><td>Ask questions to stimulate deeper learning</td><td>1</td></tr> <tr><td>Ensure that everyone understands the learning material</td><td>1</td></tr> <tr><td>Make sure students work hard during class</td><td>1</td></tr> <tr><td>Ensure that students dare to speak up</td><td>1</td></tr> <tr><td>Ensure a good atmosphere during the lesson</td><td>1</td></tr> <tr><td>Match the pace of the lesson to the students</td><td>1</td></tr> <tr><td>Explain why an answer was incorrect</td><td>0</td></tr> <tr><td>Activate the students during the lesson</td><td>1</td></tr> <tr><td>Give students enough time to work on assignments</td><td>1</td></tr> <tr><td>Repeat learning goals at the end of the lesson</td><td>2</td></tr> <tr><td>Other, namely...</td><td>1</td></tr> </tbody> </table>	Point of improvement	#teachers	Indicate learning goals	1	Explain more clearly	1	Connect the lessons with what students already know	1	Keep an eye on whether students understand the learning material	2	Ask questions to stimulate deeper learning	1	Ensure that everyone understands the learning material	1	Make sure students work hard during class	1	Ensure that students dare to speak up	1	Ensure a good atmosphere during the lesson	1	Match the pace of the lesson to the students	1	Explain why an answer was incorrect	0	Activate the students during the lesson	1	Give students enough time to work on assignments	1	Repeat learning goals at the end of the lesson	2	Other, namely...	1
Point of improvement	#teachers																																	
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Repeat learning goals at the end of the lesson	2																																	
Other, namely...	1																																	

Other answer was:

- *To offer greater variety in the lessons.*

Phase 3: Which actions do you plan to take to work on for improvement? (Multiple answers possible).



- I intend to ask a colleague for tips.
- I intend to observe a colleague in his/her lesson.
- I intend to adjust my lesson preparation.
- I intend to look up information on the internet or elsewhere.
- Other, namely...

Other answers were:

- *To offer more variety in the lessons.*
- *To check after the lesson if everything that needed to be discussed was discussed.*

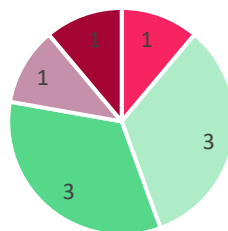
Phase 4: Which points of improvement did you work on? (Multiple answers possible).

Point of improvement	#teachers
Indicate learning goals	1
Explain more clearly	0
Connect the lessons with what students already know	1
Keep an eye on whether students understand the learning material	2
Ask questions to stimulate deeper learning	0
Ensure that everyone understands the learning material	0
Make sure students work hard during class	0
Ensure that students dare to speak up	0
Ensure a good atmosphere during the lesson	1
Match the pace of the lesson to the students	1
Explain why an answer was incorrect	0
Activate the students during the lesson	1
Give students enough time to work on assignments	0
Repeat learning goals at the end of the lesson	2
Other, namely...	2

Other answers were:

- *To ask students what learning material they want to discuss during the lesson.*
- *To test learning objectives after the lesson.*

Phase 4: Execution Which actions did you conduct? (Multiple answers possible).



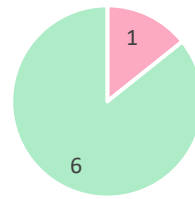
- I asked a colleague for tips.
- I have adjusted my lesson preparation.
- I looked up information on the Internet or elsewhere.
- I haven't done anything with the feedback.
- Other, namely...

Other answer was:

- *To evaluate after each lesson if the actions that were planned were executed.*

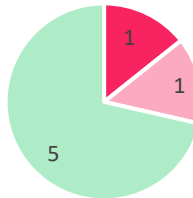
Phase 5: Do you agree with the a)
Reflection following statements...
Impact! tool

a) *the Impact! tool motivates me to ask for feedback more often.*



■ Totally disagree
■ Disagree
■ Agree
■ Totally agree

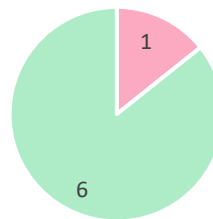
b) *I mostly used the feedback I received to improve my lessons.*



■ Totally disagree
■ Disagree
■ Agree
■ Totally agree

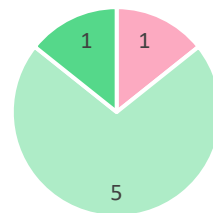
Phase 5: Do you agree with the a)
Reflection following statements...
Impact! cycle

a) *the Impact! cycle has given me enough support to improve my lessons based on the received feedback.*



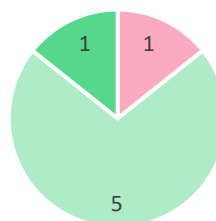
■ Totally disagree
■ Disagree
■ Agree
■ Totally agree

b) *working in an Impact! team has motivated me to do more with the feedback than I would have done on my own.*



■ Totally disagree
■ Disagree
■ Agree
■ Totally agree

c) *using the Impact! cycle can lead to sustainable improvement of my lessons.*



■ Totally disagree
■ Disagree
■ Agree
■ Totally agree

Remarks Do you have any comments or tips?

- ❖ *“Visiting a colleague was quite difficult due to the busy schedules. Therefore, time should be arranged for this and observations of colleagues should be planned during the collaborative meetings.”*
- ❖ *“Earlier in the project a concrete point of improvement should be stated.”*

Interviews

For the interviews all Impact! coaches and two teachers per school were approached. Because school 5 did not start with the intervention due to the COVID-19 measures, they decided not to participate in the interviews. From school 1 the Impact! coaches also were not willing to take part in the interview, because they did not start with the Impact! cycle. In the end, interviews were conducted with four teachers from different participating schools and three coaches, also from different schools (Table 7).

Table 7: Overview interviews

	School	Date	Finished the Impact! cycle
Teacher 1	School 1	07-04-2021	No
Teacher 2	School 2	08-04-2021	Yes
Teacher 3	School 3	09-04-2021	Yes
Teacher 4	School 4	06-04-2021	Yes
Impact! coach 1	School 2	06-04-2021	Yes
Impact! coach 2	School 3	06-04-2021	Yes
Impact! coach 3	School 4	08-04-2021	Yes

The participants were asked several questions about the different phases of the Impact! cycle and some questions in general about their experiences in a semi-structured interview (Appendix nine). The purpose of the interviews was to find out how participants, both teachers and coaches, experienced the PLC-based intervention and how, according to the teachers, it has affected the utilisation of feedback of participating teachers. Next to this, the interviews were used to compare whether teachers from different schools had different experiences, and what were the causes of these differences. Detailed elaborations on the interviews can be found in Appendix ten.

Teachers

From the four teachers who participated in the interviews, only one teacher was not able to use the Impact! tool. She stated that due to the fact that students are not allowed to bring any digital devices she could not use the tool. However, she did use a paper-based version of the questionnaire. The other teachers were enthusiastic about the Impact! tool and have used it several times during the intervention. Remarkable is the fact that no one has used the Impact! tool for self-reflection or to collect feedback from a colleague. Nonetheless, most teachers stated that the tool was easy to use and very clear. One teacher stated that *“the tool was easy to use, even for someone who has no feeling with digitization.”* However, even though it is easy to use for both teachers and students, one teacher stated that *“retrieving data from the tool can be more user-friendly and advanced.”* The teacher would like to have the ability to view the feedback per student and to compare data with teachers in school.

Considering the content of the questionnaire most teachers stated that the questions were easy to answer for students and clearly formulated. One teacher stated that *"it is nice that students are forced to think about whether they think something is good or not because there is no neutral answer."* Only for students in practical education, the teacher noticed that some questions were difficult to understand. One suggestion that teachers had regarding the content of the questionnaire was to add an option to select a specific set of questions, because not every question is applicable to each lesson. Furthermore, teachers argued that it would be nice to have more questionnaires available. For instance for practical lessons or questionnaires that focus on a specific teaching role or skill.

After collecting feedback all teachers continued with analysing the data. Some discussed the feedback with a colleague or within the Impact! team. Next to this, some teachers also discussed the feedback with a group of students and experienced this very valuable. According to one teacher, *"it was very valuable to discuss feedback with students, but it depends on how you feel about this as a teacher."* Another teacher added the option for students to add their name to the questionnaire when providing feedback. This enabled them to ask students for elaboration on their feedback, which was very valuable.

Succeeding the analysis of feedback, not all teachers continued with the steps of the Impact! cycle due to the COVID-19 measures and the fact that schools had to be closed. However, all teachers argued that the Impact! cycle was clear, very goal-oriented and followed a logical sequence of steps. Especially for starting in-service teachers and pre-service teachers who mostly participated in this study, this guidance was experienced as useful and pleasant. However, one experienced teacher stated that he had benefited from the Impact! cycle, because it forced him to critically reflect on his teaching.

Considering the role of the Impact! team, most teachers stated that it was nice to be able to discuss feedback with each other. However, most teachers stated that more time should be scheduled to actually work with this team or with the buddy. None of the teachers was for instance able to observe lessons from a buddy, but do think that this can be very informative and value feedback because a lot can be learned from observing another teacher. Regarding the Impact! coach, most teachers thought this was a good addition to the team because having someone guiding the process was very pleasant. Besides giving good guidance, the Impact! coach also worked as a big stick, which was nice because it forced the teacher to work with the feedback.

Overall, all teachers are willing to use the Impact! tool more often and would like to have the possibility to choose between different questionnaires or would like to see the tool be further developed. For instance, by adding the function to review data per student and not the class as a whole, compare data with other teachers and select questions from a questionnaire.

Regarding the Impact! cycle, most teachers thought it was useful for providing guidance and working within a team was motivating. According to one teacher *"the Impact! cycle should be part of*

the IPB cycle at school in which teachers and team leaders regularly meet. When collecting data with the tool you immediately have feedback from a lot of students and a topic to talk about. This also makes the project more attractive to the school management, because they immediately have something tangible to use it on.” Others stated that following the Impact! cycle is valuable for all teachers in school, not only starting teachers, as it helps with thoroughly analysing feedback that can provide new insights. Actually, some teachers mentioned the Impact! cycle is even better for experienced teachers than starting teachers, because as a starter you are already very busy with finding your way through the school and have not much time left to also work on this. Or the project should start later throughout the year, when starting teachers have gotten used to the school. Furthermore, one teacher stated that even though some guidance was nice, *“it has to wear out eventually so that you are able to keep going through the cycle continuously by yourself without falling back into your old pattern. By continuously asking for feedback and analysing it, you stay sharp on your learning goals.”*

Impact! coaches

Besides teachers, also three Impact! coaches from different schools have been interviewed, to find out how they experienced the intervention and their role within the intervention. These coaches all had a different approach in performing their role as a coach. One teacher made a tight schedule at the start of the intervention and communicated this to all participating teachers before they started with the Impact! cycle so everyone knew what was expected from them. However, she did experience that not everyone did what was expected from them. This made it hard to get a discussion going during the meetings. The other Impact! coaches who did not make a schedule beforehand but worked from meeting to meeting also stated that this was an issue for them. Therefore, next time, all coaches said that they would be more attentive and send regular reminders to the teachers of what is expected from them. Nevertheless, they did experience the meetings useful. One teacher said that *“it was nice to have everyone together and keep each other up to date.”*

Regarding the training at the start of the project, all Impact! coaches agreed that this was very useful and informative. Some coaches even stated that this training gave enough information that they would be able to use this to train the participating teachers themselves, as this would be easier to schedule and a nice moment to get everyone actively involved.

The size of the Impact! teams differed, but all coaches agreed that the group should not be too big to get everyone actively involved. About six teachers would be perfect. However, one coach stated that a way to manage a relatively big team was to split them up in smaller groups during the meetings. According to her, *“in this way, everyone could be actively involved and there was enough time available for everyone to share personal information.”* Next, the plan of improvement that teachers wrote could be used by the Impact! coach to be aware of what everyone focuses on. All coaches were enthusiastic about this plan of improvement and thought the format was useful. According to one coach *“the plan of*

improvement is short but powerful. It is nice that a small learning goal has to be formulated, which helps as a successful experience, as it can be easily reached. This is very motivating."

Overall, the coaches were enthusiastic about the Impact! cycle, but do have some tips for improvement. One coach stated that he does not think that for every teacher it is necessary to go through all steps of the Impact! cycle with a team, but it could be discussed individually with a coach as well. Also coaches would like to see school staff being more involved. For instance, to schedule time free to observe lessons of colleagues, because now this was hard to manage while it would be very valuable. In the end, one coach stated that *"the Impact! cycle would certainly be suitable for everyone to reflect on your lessons and improve them. Perhaps now it was a bit early in the year for starters with everything they already have to do, so they can start later."* Another coach added that this project is interesting for starting as well as experienced teachers, because the collected feedback may provide insights into what is going well and what is not.

DISCUSSION AND CONCLUSION

Feedback to teachers can lead to a positive change amongst teachers. However, teachers often lack the right tools and guidance to use feedback and to make sustainable changes in their teaching. Professional learning communities have proven to be a way to improve teachers' knowledge and skills regarding reflection, but does a PLC with guidance, a clear structure and a comprehensive set of guidelines help teachers to improve their teaching based on feedback? This research aimed to set up a PLC based intervention and find out whether this PLC-based intervention affects the utilisation of feedback and teaching quality.

For this research, a mixed-method research design was used. Quantitative and qualitative data were collected in different ways: a digital survey for teachers, student perceptions of teaching quality collected using the Impact! tool, a general student perception questionnaire about teaching quality, observations of the PLC meetings and interviews.

In the first phase of the research a literature review was performed to define and measure teaching quality, and to get insight into the factors that influence the quality and use of feedback, as these are two relevant concepts for this research project. The literature review was also used to define which elements contribute to an effective PLC, to develop the PLC-based intervention for this research.

Based on research conducted and described in the theoretical framework, in this study, teaching quality was measured using the questionnaire of the Impact! tool that consists of a broad set of statements to measure teaching quality. To obtain a rich picture of the quality of teaching, teachers were provided with feedback through different perspectives: teacher self-evaluations of their teaching quality, lesson observations by an external observer and student perceptions of teaching quality. Furthermore, seven elements were described that should be part of the PLC-based intervention (Table 8). Based on these elements a guideline for a PLC was developed (Appendix one). This PLC was structured as an ongoing cyclic process called the Impact! cycle.

After developing the PLC-based intervention, five schools started with the Impact! cycle by forming an Impact! teams. During the Impact! cycle observations were made by different teams to answer the first sub research question: *Which characteristics of an effective PLC are reflected in the meetings of teachers during the intervention?* It appeared that the role of the Impact! coach was very important in stimulating different characteristics of an effective PLC. There namely was a clear difference in how different Impact! coaches structured the meetings and how this affected the Impact! team. At one school the Impact! coach was someone who took initiative, arranged meetings, and set clear goals for every meeting. In this Impact! team all teachers came well prepared to the meeting, which led to effective discussions and genuine commitment of each teacher. At the other school the Impact! coach was less prepared and did not give a clear structure to the meeting. At this school, some teachers

came unprepared to the meeting, because no clear agreements were made beforehand. In the end, a well-structured meeting, with a clear set of guidelines and personal attention in small groups seems to be an incentive to get everyone actively involved. Thus, it can be concluded that the role of a leader who is involved in the intervention and gives guidance to the process is of high importance for the effectiveness of the PLC as it can facilitate and promote many characteristics of an effective PLC.

After the intervention, a digital survey was used to provide an answer to the question: *How do teachers experience the PLC-based intervention?* First, the results of the survey showed that in general teachers who participated in the intervention were satisfied with the intervention. The results of the survey showed the feedback that teachers received by using the Impact! tool was clear and useful and all teachers could define a point of improvement and an action plan based on this. However, performing the actual plan of improvement was not that easy. Some teachers took different actions than planned and most teachers worked on more or different points of improvement than stated beforehand. This implies that some extra guidance might be needed in phases three and four of the Impact! cycle in which teachers draw up a plan of improvement and implement improvement measures. Furthermore, most teachers stated that the Impact! cycle gave enough support to improve their lessons based on the received feedback and that the Impact! team was a good incentive. However, visiting a colleague to observe a lesson was quite difficult. Therefore, time should be arranged for this beforehand and lesson observations of colleagues should be planned during the collaborative meetings. School staff can play an important role in this, so they should be more involved in the process.

Finally, interviews were held with four teachers and three Impact! coaches from different schools to find out how they experienced the intervention. In general, everyone had positive experiences with using the Impact! tool. Teachers experienced that it was easy to use and the results were clear and easy to analyse. Except for some teachers who experienced technical issues, everyone was enthusiastic about it. Some teachers even came with some recommendations for further improvement of the tool. For instance, the ability to share results with colleagues, analyse data per individual student, and adding extra questionnaires or having the option to select specific questions, because not every question applies to each lesson.

Regarding the Impact! cycle most teachers stated that all steps were very clear, goal-oriented and that the next step was always a logical sequence. Especially at schools where the Impact! coach made a clear schedule for all actions and had clear expectations, teachers went through the Impact! cycle fluently, sometimes without even noticing they were following a specific cycle. Next to this, teachers experienced working in a team as something valuable, because you can learn a lot from each other. However, not each team had much time to share experiences and provide feedback to each other. This occurred especially at relatively big teams or teams with multiple coaches, which led to no one taking the actual lead. Furthermore, unfortunately almost no teacher was able to observe a lesson of a colleague

or have a lesson observed. However, most teachers did think that observing lessons of colleagues would have been extremely useful. Therefore it was advised to plan this during the first meeting or have the school staff schedule time to do this.

Next to this, in this research participants did not voluntarily sign up to participate and often were not self-motivated to work on the intervention. Most teachers were starting teachers and argued that the start of a school year was not the right time for them to start on this project and that the project would have also been valuable for experienced teachers. Experienced teachers who did participate in the intervention agreed to this because it gave new insights to them. Probably a difference in the effect of the intervention between starting and experienced teachers is the fact that for starting teachers the feedback can be useful to shape their lessons according to the needs of students and experienced teachers can refine their lessons based on feedback.

Even though teachers experienced the Impact! tool and Impact! cycle both as a useful it is important to consider the conditions of the time this study took place, as this was during the COVID-19 pandemic. Because of this, teachers had to give online lessons for a long period. This may have affected their process during the intervention. This was also mentioned by teachers during the interviews, in which it was stated that they could not go through the intervention as planned and were not able to collect data multiple times. However, this might not have been the only reason why teachers were not able to go through the Impact! cycle. Teachers argued that the workload was already too high, especially for starting teachers who also have to find their way within the school. Also, not much support from the school staff was given to work on the project. Finally, teachers may have also lacked some motivation or had a fear of asking for feedback and having to change their lessons. This can be confronting.

Finally, the importance of discussing feedback with colleagues and students and having a team as a driving force was experienced valuable. The outcomes thereby suggest that the Impact! cycle can support teachers in utilising feedback. This can be explained by the fact that collaborative projects are a promising way to improve teachers' knowledge and skills regarding reflection (Willegems et al., 2017). Therefore, the PLC-based intervention as developed in this research can be used as a guide to process data collected with the Impact! tool or other feedback forms.

Overall, a clear, logical set of guidelines and an Impact! coach who takes the lead, arranges meetings and sets clear goals are experienced as important factors for a successful PLC. Working in a team is also of added value, but a team should not be too big, or smaller groups should then be made within a team. Next to this, especially working with a colleague is seen as a valuable factor, however, no one had experienced this. In the end, when comparing the experiences from the participating teachers to the characteristic of an effective PLC, all elements did contribute to an effective PLC but some appeared to be more important than others. Based on the survey and interviews, the importance of different characteristics can be found in the table below.

Table 8: Importance of effective characteristics PLC

Characteristics	Importance
A PLC should focus on a collaborative, overarching goal, and everyone should be aware of this, but participants can define their own more specific goal to reach the overarching goal.	Medium
A PLC should be a structured, cyclic process that takes place multiple times over a longer period.	Medium
A leader should be assigned to each PLC and special training should be given to those leaders so they know how specific leadership behaviour can lead to higher learning outcomes.	High
All participants should voluntarily participate in the PLC and be self-motivated.	Medium
A PLC should promote individual as well as collective learning, which can be stimulated by the leader.	High
All participants in a PLC should be open to work together and share personal information. A leader should create a safe learning environment.	High
School staff should provide required materials if necessary and should schedule time free for teachers to participate in a PLC.	High

In the end, when looking at the main research question of this study: *What is the effect of a PLC-based intervention on teachers' utilisation of feedback and their teaching quality?* It can be concluded that a well-structured PLC does help teachers with the utilisation of feedback. The Impact! coach plays an important role within this PLC because without well-structured guidance teachers were not motivated or stimulated to work with the feedback. Also, working within a team was seen as valuable and motivating. Unfortunately, it is hard to say whether teachers have also processed the feedback well and improved their lessons because due to the COVID-19 measures no effect on teaching quality could be measured.

LIMITATIONS AND RECOMMENDATIONS

Notwithstanding the fact that most teachers were positive about the Impact! cycle, there are also some limitations in this research that need to be addressed. This research has been conducted during the COVID-19 outbreak, which had some effects on the data collection method and execution of the intervention. Due to COVID-19 measures, only a few teachers were able to finish the Impact! cycle once, and did not do this within the scheduled amount of time. Therefore, it is unclear whether the advised schedule for the Impact! cycle is realistic or not.

Another limitation in this research is that nothing can be said about the actual improvement of teaching quality because there was not enough data available to measure this as teachers have used the Impact! tool less than advised. During the interviews, some teachers stated that they did change their lessons and thought they made some improvement, but this cannot be substantiated. Also, teachers have given physical and online lessons which are hard to compare. Therefore, teachers sometimes switched their learning goals halfway through the process.

Besides this, there are also several recommendations concerning the further implementation of the Impact! cycle and the study of its effect. As mentioned in the discussion, further research into the effect of the intervention on teaching quality should take place, because due to the COVID-19 measures this has not been done yet. The current evaluation instrument can be useful for conducting this research.

Regarding the intervention, it is advised to continue this project with small groups of about five teachers. This allows everyone to share their experiences and receive feedback from colleagues. Also, teachers should voluntarily participate in the Impact! team as recommended, because teachers need to be self-motivated to work on improving their lessons. Both starting and experienced teachers should be able to sign up for the Impact! team as it can be valuable for both. However, for starting teachers the start of the school year is not an appropriate moment to start with this intervention, because they have a lot going on at that time.

Further, based on the results of the interviews, some extra guidance is needed in phases three and four of the Impact! cycle in which teachers draw up a plan of improvement and implement improvement measures. The teacher survey showed that it was hard for teachers to come up with a point of improvement. When teachers have a clear plan of improvement and one specific topic for improvement, they can focus on a skill and take the necessary steps to improve that skill. When working on more than one topic the overview disappears. Therefore, Impact! coaches and participating teachers should receive better training on how to draw up a plan of improvement.

Another recommendation for further research has to do with the questionnaires of the Impact! tool. At the moment the Impact! tool has one available questionnaire. This questionnaire focuses on

different teaching skills and can help measure a wide range of teaching skills. However, interviews with participating teachers showed that the questionnaire is not suitable for every lesson. Therefore, it is advised to add more questionnaires about different teaching skills or for specific subjects such as physical education or practical lessons or to provide the option to select a range of questions from the general questionnaire. However, the content of such questionnaires needs further elaboration. Therefore, this will have to take place in another research project, possibly with a focus group of teachers who have worked with the Impact! tool and who will look into further development of questionnaires.

Further, the role of an Impact! coach has proven to be extremely important. Therefore, it is advised to carefully choose one and to facilitate enough time for this process, someone who has good leadership skills and takes initiative. Also, not more than one coach should be assigned to a team to prevent the sense of responsibility from disappearing, which now happened at the teams who had more than one Impact! coach.

Also, no Impact! team has gone through the Impact! cycle twice, which was advised, because sustainable improvement needs some time. The current advice is, therefore, to restart this project in a new school year under regular circumstances, to be able to find out whether this intervention leads to an actual improvement of teaching quality. Nevertheless, even though there are no results on the effect of the intervention on teaching quality, all schools want to continue the project next school year and are enthusiastic about it.

Finally, more time should be made available to work with a buddy and observe a lesson of a colleague. Most teachers think it is valuable to work with a colleague, but no one had time to arrange this due to tight schedules. To be able to accomplish this, the school management should schedule time free for the participating teachers to work on the intervention together with their buddies.

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APPENDIXES

APPENDIX ONE: INSTRUCTIONAL MANUAL IMPACT! CYCLE FOR TEACHERS

HANDLEIDING DOCENT

Impact! cyclus

Het verbeteren van lessen op basis van feedback!

Feedback kan prestatieverbeterend werken. Als docent ontvang je echter weinig feedback op de kern van je werk: de lessen die je geeft. Met de Impact! tool kan dit wel, eenvoudig en snel. Je ontvangt dan aan het eind van je les feedback van leerlingen en van een collega. Ook geef je zelf een oordeel over de les.

Op basis van de feedback werk je gezamenlijk met andere docenten aan het verbeteren van je lessen. Dat doe je door het doorlopen van de Impact! cyclus (zie Figuur 1) en onder leiding van een Impact! coach. In dit document wordt meer verteld over dit verbeterproces.



Impact! team



Als docent doorloop je de Impact! cyclus gezamenlijk met andere docenten en vorm je zo een professionele leergemeenschap (PLG). Deze PLG wordt het Impact! team genoemd. Het is belangrijk dat je als team structureel bij elkaar komt om elkaar goed te leren kennen en te motiveren. Bovendien is een goede communicatie van belang, opdat iedereen zich bewust is van waarom de cyclus wordt doorlopen, maar ook vanwege praktische redenen zoals aanwezigheid bij bijeenkomsten en het naleven van gemaakte afspraken.

Impact! coach

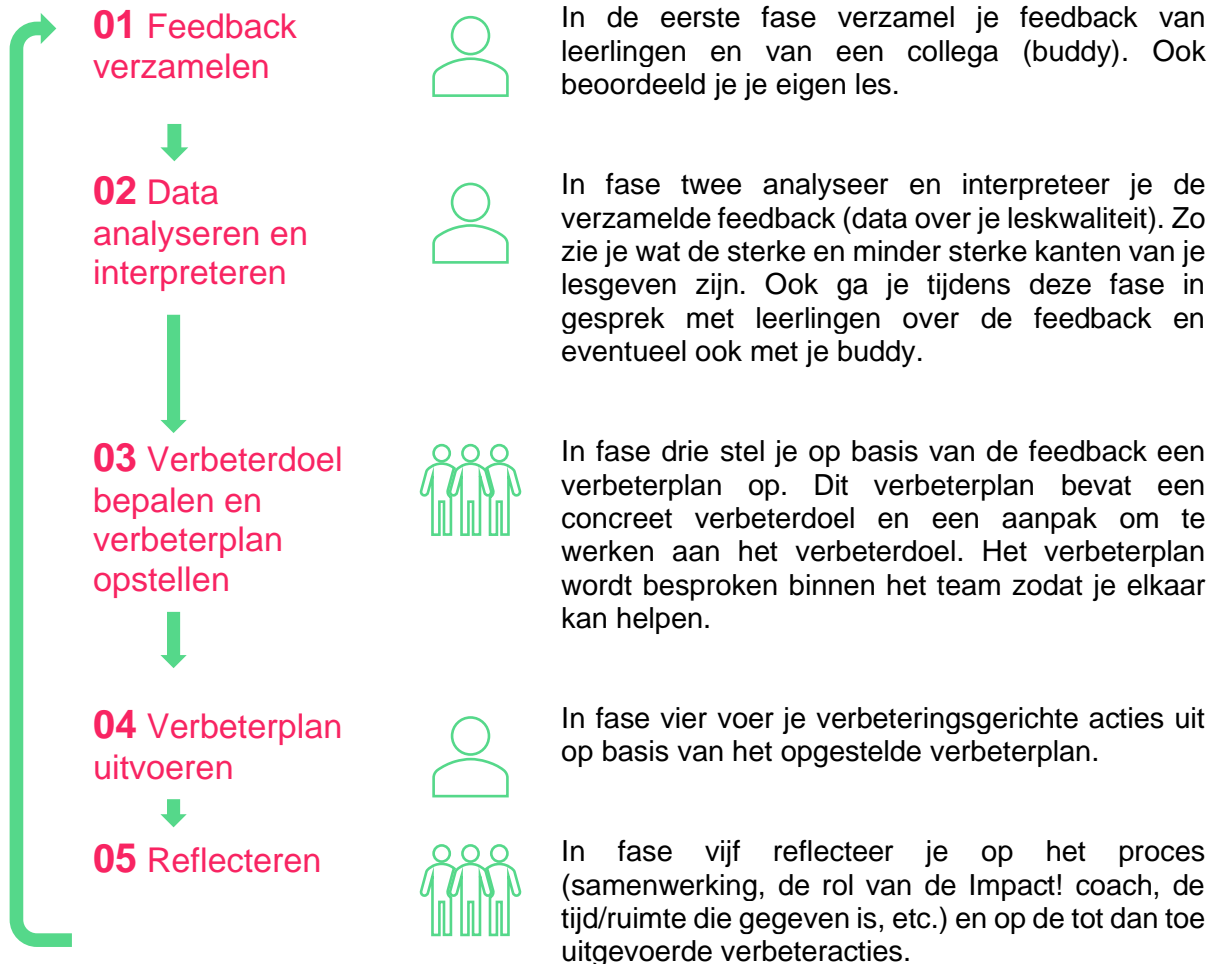


Goed leiderschap in het Impact! team is noodzakelijk om de Impact! cyclus goed en gestructureerd te kunnen doorlopen. Om deze reden wordt binnen elk team een Impact! coach aangesteld. De Impact! coach is een docent die weet hoe de Impact! tool werkt en enthousiasmerend en stimulerend naar zijn/haar collega's is over het gebruik van de Impact! tool. De Impact! coach organiseert en leidt de gezamenlijke bijeenkomsten en bewaakt de planning. Bovendien ondersteunt de Impact! coach deelnemende docenten indien nodig in hun verbeterproces. Tot slot is de Impact! coach het aanspreekpunt voor zowel de schoolleider als voor Impact.

Impact! Cyclus



De Impact! cyclus bestaat uit vijf in elkaar overvloeiende fases. Voorafgaand aan deze fases krijg je een training in het gebruik van de Impact! tool. Hieronder worden fases eerst kort beschreven. Daarna zal er per fase worden toegelicht wat er van jou wordt verwacht als docent.



Na fase 5 verzamel je opnieuw data over je leskwaliteit (start fase 1). Zo kun je gedurende de tijd verbetering zien van je lessen

Planning



Om te voorkomen dat het samenwerken 'voortkabbelt' en uiteindelijk weinig bereikt wordt, is het belangrijk om in duidelijke periodes te gaan werken. Hiervoor wordt de onderstaande planning geadviseerd:

Fase	Week	Werkvorm
01: Data verzamelen	Week 1 & 2	Individueel
02: Data analyseren	Week 1 & 2	Individueel
03: Verbeterplan opstellen	Week 3	Bijeenkomst 1
04: Verbeterplan uitvoeren	Week 4 t/m 7	Individueel
05: Reflecteren	Week 7/8	Bijeenkomst 2

Meer informatie?



Als je meer wilt weten over de Impact! cyclus of over onderdelen daarvan, neem dan contact op met Hannah Bijlsma (h.j.e.bijlsma@utwente.nl) of Silke Heesen (s.h.heesen@student.utwente.nl).

'Impact op onderwijs' is een product van de Universiteit Twente en Crolox B.V.

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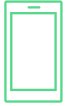


Fase 1: Feedback verzamelen (week 1 & 2)



In de eerste fase verzamel je feedback over jouw lessen van leerlingen en van een collega. Deze collega is jouw 'buddy.' Je geeft ook je eigen oordeel over je lessen. Zo verzamel je vanuit drie perspectieven data over jouw leskwaliteit.

Impact! tool



Voor het verzamelen van de feedback gebruik je de digitale Impact! tool. Je leerlingen, buddy en jijzelf vullen aan het eind van de les een korte vragenlijst in op een smartphone, of een andere digitale device. De feedback wordt direct zichtbaar in jouw eigen docenten web-omgeving. Zo zie je direct de sterke kanten van jouw les en in waar nog verbetering mogelijk is. Zorg dat je van ten minste drie verschillende klassen feedback verzamelt.

In hulpdocument A staan enkele tips voor het verzamelen van feedback. In hulpdocument B staan nog enkele tips voor jouw buddy over de lesobservatie. Tot slot vind je in hulpdocument C een kopie van die vragenlijst uit de Impact! tool die je kunt gebruiken als jij een les van je buddy gaat observeren en beoordelen.

Kortom, in deze fase...

- ... gebruik je de Impact! tool om van minstens drie verschillende klassen feedback te verzamelen van leerlingen en van jouw buddy. Ook beoordeel je zelf deze lessen.
- ... bezoek jij tenminste twee lessen van je buddy om hem/haar feedback te geven over de les.



Figuur 1: Impact! tool

Fase 2: Data analyseren en interpreteren (week 1 & 2)



In de tweede fase van de Impact! cyclus analyseer en interpreteer je de verzamelde data (de feedback die je hebt ontvangen). Je zet hiermee de data om naar waardevolle informatie waar je iets mee kunt. Het stelt je in staat om data te analyseren, kritische vragen te stellen over data, kennis op te bouwen over je sterktes en je verbeterpunten en om op basis daarvan besluiten te nemen.

Data bekijken



De feedback die is gegeven wordt overzichtelijk weergegeven in jouw docenten web-omgeving van Impact!. Je ziet de sterke kanten van jouw les en in waar nog verbetering mogelijk is. Ook kun je zien of de leerlingen, de docenten en jijzelf overeenkomen in jullie lesoordelen, of juist niet. Het is belangrijk dat je alles wat je opvalt nauwkeurig noteert.

Kritische vragen stellen



Om de data nog beter te interpreteren, ga je in gesprek met je leerlingen over de feedback die zij hebben gegeven. Stel gerichte vragen over een specifiek onderwerp, zodat je ook daadwerkelijk meer input bij de leerlingen kunt verzamelen. Dit geeft nuttige, aanvullende informatie over wat zij van jouw les vonden. Naast het gesprek met leerlingen kun je ook in gesprek gaan met je buddy over de feedback die hij/zij gegeven heeft.

Interpreteren



Voor het interpreteren van de data gebruik je hulpdocument D. Daar ga je op basis van de opgedane kennis een besluit vormen over je verbeterdoel voor de komende weken.

Kortom, in deze fase...

- ... bekijk, analyseer en interpreteer je de feedback (data).
- ... bespreek je de feedback met de leerlingen en eventueel ook met je buddy.
- ... beschrijf je wat je sterke kanten en je verbeterpunten zijn op basis van de drie perspectieven op je les.

Fase 3: Verbeterdoel bepalen en verbeterplan opstellen (week 3)



In de derde fase stel je samen met het Impact! team een verbeterplan op waarmee je de komende weken aan de slag gaat. Je neemt de Impact! resultaten mee naar de bijeenkomst, inclusief de bevindingen van je analyse en interpretatie.

Verbeterplan opstellen



Formuleer één concreet verbeterdoel waaraan je wilt gaan werken. Op dit doel baseer je je verbeterplan. Stel verbeteracties op. Zo definieer je *hoe* je gaat werken aan verbetering van je lessen. Denk aan het raadplegen van literatuur en/of collega's, dan wel het observeren van lessen van collega's. Bovendien denk je na over wanneer je je leerdoel bereikt wilt hebben. Voor het verbeterplan kun je hulpdocument E gebruiken.

Verbeterplan delen



Wanneer je je verbeterplan hebt opgesteld, bespreek je dit met je Impact! team. Bespreek met elkaar de volgende drie aspecten:

- Aan welk leerdoel ga je werken?
- Welke verbeteracties ga je ondernemen?
- Wanneer is je leerdoel bereikt?

Stel elkaar vragen als: waarom denk je dat dit plan gaat resulteren in verbetering en verandering in de les en waarom denk je dat het effectief zal zijn?

Kortom, in deze fase...

- ... ga je je verbeterplan opstellen.
- ... bespreek je je verbeterplan met het Impact! team en geef je elkaar feedback.

Fase 4: Verbeterplan uitvoeren (week 4 t/m 7)



Je voert in fase 4 de verbeteringsgerichte acties uit die je gepland hebt.

Fase 5: Reflecteren (week 7/8)



In fase vijf kom je als Impact! team weer bijeen onder leiding van de Impact! coach. In deze bijeenkomst reflecteer je op de acties die je tot nu toe ondernomen hebt, op de samenwerking met jouw buddy en op het gehele proces.

De Impact! coach zal deze bijeenkomst begeleiden, feedback geven en jullie vragen beantwoorden. Een belangrijk onderdeel van deze bijeenkomst is om alvast samen na te denken over de duurzame verbetering van leskwaliteit bij jullie op school: Hoe zouden jullie de Impact! tool daar in de toekomst voor kunnen gebruiken en wat heb je van elkaar nodig?

Tot slot plan je nog tijdens de bijeenkomst nieuwe momenten voor het verzamelen van feedback (fase 1 van de Impact! cyclus). Kies een dag en een tijdstip voor deze lesobservaties en zet de lessen alvast klaar in de Impact! omgeving. Belangrijk is dat je dezelfde klassen om feedback vraagt als tijdens de het eerste meetmoment, zodat je goed kunt vergelijken met dezelfde leerlingen

Kortom, in deze fase...

- ... reflecteer je op jouw uitgevoerde verbeteracties.
- ... bespreek je hoe je in school gaat werken aan een duurzame verbetering van leskwaliteit.
- ... plan je een nieuwe ronde lesobservaties met je buddy.

Hulpdocument A: Verzamelen van feedback

Vragenlijst aanmaken



Het is van belang dat je ruim voor aanvang van je les de vragenlijst hebt geactiveerd in jouw persoonlijke docentwebomgeving van de Impact! tool. Dit doe je door een nieuwe les toe te voegen. Het wordt aangeraden om de start- en eindtijd van je les zo ruim mogelijk te nemen. Bij het aanmaken van een nieuwe les en het gebruik van de VO-vragenlijst zul je voor de leerlingen, docent en observator een verschillende code voor de vragenlijst krijgen. Bewaar deze codes goed en schrijf ze voor jezelf op zodat je ze tijdens de les binnen handbereik hebt.

Feedback van leerlingen



Zorg ervoor dat je de les 5-10 minuten voor de daadwerkelijke eindtijd van de les afrondt, zodat leerlingen, jouw collega en jijzelf voldoende tijd hebben om de vragenlijst in te vullen. Vertel duidelijk het doel aan de klas. Aan de hand van een aantal stellingen kunnen leerlingen op hun smartphone, tablet of laptop de les beoordelen zodat jij erachter komt wat leerlingen van de les vonden. Maak leerlingen daarnaast duidelijk dat de vragenlijst anoniem is en niemand dus zal weten wie welk antwoord gaf. Ook is het belangrijk dat de vragenlijst alleen wordt ingevuld, dus zonder overleg met andere leerlingen.

Leerlingen kunnen de vragenlijst invullen door naar www.4iioo.nl te gaan (staat voor '4 impact op onderwijs'), of door de QR-code te scannen die je op een slide klaar hebt staan. Schrijf de zescijferige code voor de leerlingen op het bord of plaats die op de slide en zorg ervoor dat dit goed te lezen is voor de leerling. Eerst wordt gevraagd naar het cijfer dat een leerling meestal haalt voor dit vak (dit is het gemiddelde cijfer). Daarna volgt de rest van de vragenlijst. Als de leerling klaar is met invullen, dan kan hij/zij op 'verzenden' klikken. Loop ondertussen rond om te checken of alle leerlingen het goed begrepen hebben en help leerlingen indien nodig.

Feedback van collega en door jezelf



Zelf kan je de vragenlijst ook invullen via www.4iioo.nl of door de QR-code te scannen. Belangrijk is dat je je buddy de code geeft voor 'observator', zodat hij/zij de les ook kan beoordelen.

Mogelijke technische problemen



- **De leerlingen vinden niet in één keer de juiste pagina.**
Dit kan komen door een typefout in de URL. Ook is het van belang dat de URL in de webbrowser wordt gezet en niet als zoekterm in een zoekmachine.
- **De internetverbinding werkt niet**
Controleer of er een internetverbinding is. Mocht die er niet zijn, dan kan de les niet worden beoordeeld, omdat voor het gebruik van de tool internet nodig is.
- **De vragenlijst komt niet in beeld na het invullen van de code**
Dit kan te maken hebben met een verouderd besturingssysteem op de device van de leerling. De leerling zou dan nog een andere device kunnen gebruiken.
- **Er is te weinig tijd aan het eind van de les.**
Vraag vriendelijk om rustig de vragenlijst helemaal in te vullen en geef hiervoor de benodigde tijd.

Hulpdocument B: Lesbeoordeling

Met dit document kun je je voorbereiden op het ontvangen en geven van een lesbeoordeling van en aan je buddy.

Tips voorbereiding ontvangst lesbezoek



Als je de les klaargezet hebt in de Impact! web-omgeving, dan zie je drie codes: één voor de leerlingen, één voor de docent en één voor de observator. Zorg ervoor dat je deze codes bij de hand hebt.

Hierbij geven we een aantal tips en adviezen voor de lesbeoordeling:

- Vertel de leerlingen bij de start van de les waarom er een extra docent in het lokaal aanwezig is.

Tips voor observator bij lesbezoek



Observeer de les van begin tot eind. De duur van de observatie is dus afhankelijk van de les. Je verstoort verder de les zo min mogelijk door vanuit een vaste plek in de klas te observeren en verder geen (storende) interactie met de leerlingen te zoeken. Gedurende de les observeer je zonder onderbrekingen alles wat er in de klas gebeurt, met in je achterhoofd de items die je gaat beoordelen met het instrument.

Hierbij geven we een aantal tips en adviezen voor de lesbeoordeling:

- Neem een neutrale, objectieve, onbevagen houding aan. Geef geen ruimte aan je 'eerste indruk,' maar observeer eerst de hele les voordat je een oordeel geeft.
- Print een papieren exemplaar van de vragenlijst uit (hulpdocument C) voor de zodat je hier aantekeningen op kan maken en weet waar je op moet letten tijdens de observatie.
- Maak veel aantekeningen en noteer daarbij vooral feiten en letterlijke citaten.
- Markeer/codeer je aantekeningen met een + of -, al naar gelang je observatie bijdraagt of afbreuk doet aan de leskwaliteit. Soms kun je aan het eind een negatieve bevinding wegstrepen tegen een positieve. Bijvoorbeeld tijdverlies in het begin versus efficiënte besteding later in de les waardoor gemiddeld de tijd voldoende efficiënt is besteed.
- Soms is een enkele negatieve bevinding genoeg om tot een negatief oordeel te komen, bijvoorbeeld uitingen van lage verwachtingen of foutieve uitleg van de lesstof.
- Bij elk item is de optie 'niet te beoordelen' toegevoegd in de digitale omgeving. Je kunt deze optie gebruiken als het item niet te beoordelen is in de les. Doe dit echter zo min mogelijk.

Hulpdocument C: Observatieformulier

Indicator	👍	👍	👍	👍	Toelichting
Lesklimaat					
1. De docent zorgde ervoor dat de leerlingen zich veilig voelden tijdens de les.					
2. De docent geeft de leerlingen de indruk dat ze goed kunnen zijn in zijn vak.					
3. De docent bepaalde wat er gebeurde tijdens de les.					
4. De docent zorgde voor een fijne sfeer tijdens de les.					
Klassenmanagement					
5. De docent zorgde ervoor dat de leerlingen goed meededen tijdens de les.					
6. De docent gebruikte alle lestijd voor leren.					
7. De docent zorgde ervoor dat de leerlingen luisterden tijdens de les.					
8. De docent vertelde aan het begin van de les wat de leerlingen gingen leren.					
Instructie					
9. De docent vertelde waarom de leerlingen leerden wat ze gingen leren.					
10. Voordat de leerlingen iets gingen leren, herhaalde de docent kort wat ze al eerder hadden geleerd.					
11. De docent legde de lesstof zo uit dat de leerlingen het snapten.					
12. De docent legde uit hoe de leerlingen de opdrachten konden maken.					
13. De docent legde uit waarom een antwoord goed of fout was.					
14. De docent liet de leerlingen diep nadenken over de lesstof.					
15. De docent gaf genoeg tijd om te oefenen met de lesstof.					
16. Aan het eind van de les werd kort herhaald wat de leerlingen hadden geleerd.					
Afstemming					
17. De les ging niet te snel en niet te langzaam.					
18. De docent controleerde of de leerlingen het wel of niet snapten tijdens de les.					
19. Als leerlingen tijdens de les iets moeilijk vonden, dan hielp de docent hen.					
20. Als leerlingen het al snapten, dan liet de docent hen moeilijkere opdrachten maken.					
Zelfregulerend leren					
21. De docent liet de leerlingen tijdens de les nadenken over wat ze al wel en wat (nog) niet snapten.					
22. De docent liet de leerlingen tijdens de les nadenken over hoe ze wat ze nog niet goed snapten nog beter kunnen leren.					
23. De docent stimuleerde leerlingen tijdens de les om te werken aan hun doelen.					
24. De docent stimuleerde de leerlingen tijdens de les om zelf hun werk te organiseren.					

Hulpdocument D: Format analyse en interpretatie van feedback

STERKTES	VERBETERPUNTEN
<i>Feedback van leerlingen:</i>	<i>Feedback van leerlingen:</i>
<i>Feedback van college:</i>	<i>Feedback van collega:</i>
<i>Eigen feedback:</i>	<i>Eigen feedback:</i>
<i>Opvallende punten:</i>	<i>Opvallende punten:</i>

Hulpdocument E: Format verbeterplan

LEERDOEL

Wat is op basis van je eerste analyse je concrete leerdoel?

ACTIVITEITEN

Welke stappen ga je nemen om je doel te bereiken?

Wanneer doe je wat? Denk daarbij aan het raadplegen van literatuur of collega's, of het observeren van lessen van collega's.

RESULTAAT

Wanneer is je doel bereikt?

APPENDIX TWO: INSTRUCTIONAL MANUAL IMPACT! CYCLE FOR IMPACT!

COACH

HANDLEIDING IMPACT! COACH

Impact! cyclus

Het verbeteren van lessen op basis van feedback!

Feedback kan prestatieverbeterend werken. Docenten ontvangen echter weinig feedback op de kern van hun werk: de lessen die ze geven. Met de Impact! tool kan dit wel, eenvoudig en snel. Docenten ontvangen dan aan het eind van hun les feedback van leerlingen en van een collega. Ook geven ze zelf een oordeel over de les.

Op basis van de feedback werken docenten gezamenlijk aan het verbeteren van hun lessen. Dat doen ze door het doorlopen van de Impact! cyclus (zie Figuur 1) en onder leiding van een Impact! coach. In dit document wordt meer verteld over dit verbeterproces.



Impact! coach



Voor een goede voortgang en ontwikkeling van de Impact! cyclus voor professionele ontwikkeling is goed leiderschap binnen het team noodzakelijk. Om deze reden zal binnen elk team een Impact! coach worden aangesteld. Als Impact! coach ben je goed op de hoogte van hoe de Impact! tool werkt en kun je collega's enthousiasmeren en stimuleren voor het gebruik van de Impact! tool. Jouw rol als Impact! coach is om overzicht te houden van de voortgang van het team, door de gezamenlijke bijeenkomsten te organiseren en te leiden. Daarnaast ben je verantwoordelijk voor de planning en ben je er om deelnemende docenten zowel binnen het team als individueel steun te bieden. Dit zorgt voor een leerklimaat waarbinnen leer- en ontwikkelingsmogelijkheden worden bevorderd. Tot slot ben jij als Impact! coach het aanspreekpunt voor zowel de schoolleider als voor Impact. Voorafgaand aan de Impact! cyclus zal je als Impact! coach een training krijgen, zodat je weet wat er van je verwacht wordt en je over de benodigde informatie beschikt.

Impact! team



Docenten doorlopen de Impact! cyclus gezamenlijk en vormen zo een professionele leergemeenschap (PLG). Deze PLG wordt het Impact! team genoemd en wordt door jou als Impact! coach geleid. Het is belangrijk dat teamleden structureel bij elkaar komen om elkaar goed te leren. Bovendien is een goede communicatie van belang, opdat iedereen zich bewust is van waarom de cyclus wordt doorlopen, maar ook vanwege praktische redenen zoals aanwezigheid bij bijeenkomsten en het naleven van gemaakte afspraken. Om dit te realiseren is jouw rol als Impact! coach erg belangrijk.

Impact! cyclus



Als Impact! coach is het belangrijk om de Impact! cyclus goed te kennen zodat je een sturende rol kan aannemen. De cyclus zal ook aan bod komen in de training voor de Impact! coaches. Hieronder een korte schets van de Impact! cyclus:



Na fase 5 verzamelen docenten opnieuw data over hun leskwaliteit (start fase 1). Op basis hiervan kunnen docenten bepalen of ze hun leerdoel aanscherpen of een nieuw leerdoel willen opstellen. Docenten kunnen zo gedurende de tijd verbetering zien van hun lessen.

Tips Impact! coaches

Een motiverende en sturende rol van jou als Impact! coach binnen het Impact! team is belangrijk. We geven je nu een aantal voorwaarden die je kunnen helpen om het Impact! team te laten slagen.

Creëer een vertrouwde en motiverende omgeving



Zorg er als Impact! coach voor dat iedereen actief betrokken wordt binnen het team en dat er een sfeer heerst waarin iedereen zich open durft te stellen om zich uit te spreken. Hier kun je voor zorgen door het Impact! team niet te groot te maken, bijvoorbeeld 10 docenten. Het aantal deelnemende docenten heb je als coach niet altijd in de hand. Zorg er bij grotere Impact! teams voor dat iedereen geprikkeld wordt om echt mee te doen met de Impact! cyclus door het team bijvoorbeeld op te delen in kleine groepjes.

Buiten de gezamenlijke momenten om zullen de deelnemende docenten in buddy's (twee docenten) gaan samenwerken. Het is belangrijk dat je als coach zorgt dat iedereen een buddy heeft.

Maak doelen en acties zichtbaar voor jezelf



In fase 3 zal iedereen op basis van zijn/haar data-analyse een eigen doelstelling formuleren om de komende weken aan te werken. Als Impact! coach is het belangrijk om deze persoonlijke doelen concreet en inzichtelijk te krijgen. Het wordt daarom aangeraden om een kopie te maken van de verbeterplannen van de docenten. Daardoor weet je wie aan welk doel werkt en welke verbeteracties zijn opgesteld om dit doel te behalen. Door hier voor jezelf een overzicht van te maken is het voor jou als coach makkelijk om de voortgang m.b.t. het doel te bespreken.

Bezoek of ontvang je collega's in de les



Na de gezamenlijke bijeenkomst in fase 3 is het belangrijk om goed contact te onderhouden met alle Impact! teamleden. Dit kan bijvoorbeeld door het Impact! team tussentijds in kleine groepen te spreken. Er kan dan samen worden besproken wat wel en wat niet werkt en of de docenten nog ergens tegen aan lopen. Ook kun je af en toe docenten aanspreken om te vragen hoe het gaat en of ze nog ergens hulp bij nodig hebben. Op deze manier zorg je ervoor dat iedereen actief betrokken blijft tijdens het doorlopen van de Impact! cyclus.

Houdt een periode van 6 tot 8 weken aan



Om te voorkomen dat het samenwerken 'voortkabbelt' en uiteindelijk weinig bereikt wordt, is het belangrijk om in duidelijke periodes te gaan werken. Hiervoor wordt de onderstaande planning geadviseerd:

Fase	Week	Werkvorm
01: Data verzamelen	Week 1 & 2	Individueel
02: Data analyseren	Week 1 & 2	Individueel
03: Verbeterplan opstellen	Week 3	Bijeenkomst 1
04: Verbeterplan uitvoeren	Week 4 t/m 7	Individueel
05: Reflecteren	Week 7/8	Bijeenkomst 2

Bijeenkomsten

Voorafgaand aan de Impact! cyclus krijgen alle docenten een training van Impact in het gebruik van de Impact! tool. Het is handig om hier als Impact! coach al data te plannen voor de bijeenkomsten in fase 3 en 5.

Bijeenkomst 1 [fase 3]: Verbeterplan opstellen

In de derde fase gaan docenten op basis van hun data-analyse en interpretatie een verbeterplan opstellen waar zij de komende weken mee aan de slag gaan. Om ervoor te zorgen dat bijeenkomsten efficiënt en effectief verlopen is het belangrijk dat je als Impact! coach zorgt voor structuur in zo'n bijeenkomst. In deze eerste bijeenkomst neem je de volgende structuur aan:

Reflecteren



Begin met een ronde van reflectie waarin iedere docent zijn resultaten en bevindingen van de analyse en interpretatie van de data kort presenteert. Dit kan in kleine groepjes omwille van de tijd. Door iedereen kort het woord te geven is iedereen meteen betrokken bij de bijeenkomst en raken docenten op de hoogte van elkaars ervaringen en bevindingen.

Verbeterplan opstellen



Daarna formuleren docenten op basis van hun analyse en interpretatie één concreet leerdoel waaraan ze de komende weken willen gaan werken. Op dit leerdoel baseren de docenten hun verbeterplan. Houd in de gaten of leerdoelen concreet en specifiek zijn en of de verbeteracties haalbaar zijn binnen de tijd. Een te ambitieus plan kan namelijk demotiveren als blijkt dat het niet lukt.

Verbeterplan delen



Aan het eind van de bijeenkomst delen docenten hun verbeterplan in kleine groepjes. Op deze manier kunnen docenten elkaar nog voorzien van feedback of elkaar inspireren. De volgende drie punten moeten in ieder geval benoemd worden door de docent:

- Aan welk verbeterdoel ga je werken?
- Welke verbeteracties ga je ondernemen?
- Wanneer is je leerdoel bereikt?

Tot slot wordt het aangeraden om aan het eind een kopie van elk verbeterplan te verzamelen zodat jij als Impact! coach goed op de hoogte bent van waar iedere docent mee aan de slag gaat.

Bijeenkomst 2 [fase 5]: Reflecteren



De tweede bijeenkomst staat in het teken van reflecteren. Wederom is het belangrijk dat je zorgt voor structuur in deze bijeenkomst. Omdat deze reflectiebijeenkomst niet zulke specifieke acties heeft als de eerste bijeenkomst wordt geadviseerd om deze bijeenkomst te structureren volgens het ontwerp van William (2014). De bijeenkomst duurt maximaal 60 minuten en bestaat uit de volgende onderdelen:

1. Zorg ervoor dat je een bijeenkomst begint met een korte inleiding waarin de **doelen** van de bijeenkomst worden gedeeld. Het doel van de bijeenkomst is het delen van ervaringen, voortgang en hoe er in de toekomst in school kan worden gewerkt aan een duurzame verbetering van leskwaliteit.
2. Dit wordt gevolgd door een korte **opwarm/samenwerkingsactiviteit**.
3. Laat iedere docent in kleine groepjes kort aan elkaar vertellen over hun **ervaringen** met de Impact! cyclus, de Impact! tool en hun verbeterplan.
4. Gebruik twee flap-overs, één voor '**verbeteringen**' en één voor **leerdoelen**. Laat docenten met post-its opschrijven wat zij verbeterd hebben en waar ze nog aan zouden willen werken de komende periode. Daag docenten uit na te denken over *hoe* ze hun leerdoelen gaan verbeteren op basis van feedback.
5. Op basis van de besproken feedback en nieuwe **inzichten** uit de bijeenkomst wordt elke docent gevraagd om zijn of haar persoonlijke verbeterplan bij te werken en specifieke doelen te stellen. Dit kan worden gedaan samen met de eerder gemaakte buddy's. Laat buddy's meteen een nieuwe ronde lesobservaties plannen.
6. Bespreek het vervolg: hoe wordt de Impact! cyclus een mechanisme in de school dat zorgt voor **duurzame verbetering van leskwaliteit**? Wat hebben de docenten daarvoor nodig? Schrijf mee op een flap-over. Laat docenten er een foto van maken. Laat docenten concrete afspraken maken, bijvoorbeeld voor de volgende lesobservatie en het doorlopen van de Impact! cyclus.
7. **Rond de bijeenkomst af.**

Na deze bijeenkomst is het belangrijk iedereen gefocust te houden op zijn of haar leerdoelen en nieuwe data te verzamelen, om verbetering te kunnen meten of leerdoelen bij te kunnen stellen. Je kunt de Impact! cyclus wederom met het Impact! team doorlopen om stapsgewijs te werken aan betere lessen.

Meer informatie



Als je meer wilt weten over de Impact! cyclus of over onderdelen daarvan, neem dan contact op met Silke Heesen (s.h.heesen@student.utwente.nl) of Hannah Bijlsma (h.j.e.bijlsma@utwente.nl).

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APPENDIX THREE: INSTRUCTIONAL MANUAL IMPACT! CYCLE FOR SCHOOL LEADERS

HANDLEIDING SCHOOL-/LOCATIELEIDER(S)

Impact! cyclus

Het verbeteren van lessen op basis van feedback!

Feedback kan prestatieverbeterend werken. Docenten ontvangen echter weinig feedback op de kern van hun werk: de lessen die ze geven. Met de Impact! tool kan dit wel, eenvoudig en snel. Docenten ontvangen dan aan het eind van hun les feedback van leerlingen en van een collega. Ook geven ze zelf een oordeel over de les.

Op basis van de feedback werken docenten gezamenlijk aan het verbeteren van hun lessen. Dat doen ze door het doorlopen van de Impact! cyclus (zie Figuur 1) en onder leiding van een Impact! coach. In dit document wordt meer verteld over dit verbeterproces.



Figuur 1: Impact! Cyclus

Impact! team



Deelnemende docenten vormen samen een Impact! team. Dit wordt ook wel een professionele leergemeenschap genoemd, waarin docenten gezamenlijk werken aan verbetering van onderwijs.

Impact! coach



Goed leiderschap in het Impact! team is noodzakelijk om de Impact! cyclus goed en gestructureerd te kunnen doorlopen. Om deze reden wordt binnen elk team een Impact! coach aangesteld. De Impact! coach is een docent die weet hoe de Impact! tool werkt en enthousiasmerend en stimulerend naar zijn/haar collega's is over het gebruik van de Impact! tool. De Impact! coach organiseert en leidt de gezamenlijke bijeenkomsten en bewaakt de planning. Bovendien ondersteunt de Impact! coach deelnemende docenten in hun verbeterproces. Tot slot is de Impact! coach het aanspreekpunt voor zowel de schoolleider als voor Impact.

Impact! Cyclus



De Impact! cyclus bestaat uit vijf in elkaar overvloeiende fases. Hieronder worden de fases beschreven.



Na fase 5 verzamelen docenten opnieuw data over hun leskwaliteit (start fase 1). Docenten kunnen zo gedurende de tijd verbetering zien van hun lessen

Planning



Om te voorkomen dat het samenwerken 'voortkabbelt' en uiteindelijk weinig bereikt wordt, is het belangrijk om in duidelijke periodes te gaan werken. Hiervoor wordt de onderstaande planning geadviseerd:

Fase	Week	Werkvorm
01: Data verzamelen	Week 1 & 2	Individueel
02: Data analyseren	Week 1 & 2	Individueel
03: Verbeterplan opstellen	Week 3	Bijeenkomst 1
04: Verbeterplan uitvoeren	Week 4 t/m 7	Individueel
05: Reflecteren	Week 7/8	Bijeenkomst 2

Impact! tool



Om feedback over hun lessen te ontvangen, wordt de digitale Impact! tool gebruikt (Figuur 2). Aan het eind van een les vullen leerlingen, een collega en de docent zelf een vragenlijst in op hun smartphone, tablet of laptop. De Impact! vragenlijst gaat over lesaspecten waarvan wetenschappelijk is aangetoond dat ze lessen effectief maken. De feedback wordt direct zichtbaar in de docenten web-omgeving van Impact!.



Figuur 1: Impact! tool

Rol school-/locatieleider(s)



Het is belangrijk dat docenten van het Impact! team voldoende steun en middelen krijgen vanuit de school om de Impact! cyclus goed te kunnen doorlopen en zo te werken aan verbetering van hun lessen. De rol van u als school- of locatieleider is hierbij belangrijk. U vormt een Impact! team van zo'n 10 docenten en stelt uit hun midden een Impact! coach aan. U faciliteert in tijd voor de instructiebijeenkomst en tussentijdse bijeenkomsten van de Impact! cyclus. Het is belangrijk dat u op de hoogte bent van wie binnen uw school de Impact! tool gebruikt. U kunt hiervoor regelmatig contact hebben met de Impact! coach. Voldoende stimulans vanuit u als school- of locatieleider motiveert docenten helpt hen bij het verbeteren van leskwaliteit. Bovendien bevordert het de ontwikkeling van een feedbackcultuur op school.

Meer informatie?



Als u meer wilt weten over de Impact! cyclus of over onderdelen daarvan, neem dan contact op met Silke Heesen (s.h.heesen@student.utwente.nl) of Hannah Bijlsma (h.j.e.bijlsma@utwente.nl).

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APPENDIX FOUR: OUTLINE TRAINING IMPACT! COACHES

IMPACT! TRAINING COACHES



leerdoelen van deze training

- De Impact! coach heeft kennis en inzicht over de achtergrond van de Impact! tool over effectieve (leerling-)feedback
- De Impact! coach kan de Impact! tool gebruiken
- De Impact! coach heeft inzicht in de Impact cyclus en weten wat er van hem/haar verwacht wordt tijdens de verschillende fases.
- De Impact! coach weet hoe hij/zij een team efficiënt kan leiden



Tijdsplanning training

De training			
Inhoud/ duur	Onderwerp	Activiteit	Opmerkingen
Introductie 5 minuten	Voorstellen en verwachtingen docenten helder hebben	Gebruik een passende vorm om je zelf voor te stellen en de verwachtingen van deelnemers te peilen.	Doel: Verbinding maken
Wat hoop je te leren? 5 minuten	Inventarisatie en ophalen "haakjes"	Je inventariseert waarom docenten bij de training zijn en wat ze hopen te leren. Dit wordt eventueel aangevuld met hierboven geschreven aspecten over het 'waarom' van de training.	Doel: Verwachtingen verhelderen/ voorkennis ophalen en activeren.
Het waarom 10 - 15 minuten	Waarom zou je feedback van leerlingen vragen?	<ul style="list-style-type: none"> - Gemakkelijk (in vergelijking met andere vormen van feedback). - Leerlingen zijn de doelgroep van het onderwijs dat gegeven wordt. - Leerlingen kunnen aangeven wat hun (leer)behoeften zijn en op basis daarvan kun je je lessen verbeteren. - Betrouwbaar beeld van leskwaliteit (t.o.v. lesobservaties en zelfevaluaties). <p><i>In deze fase kan eventuele weerstand tegen leerlingfeedback weg genomen worden ('leerlingen kunnen als leek mij als leraar toch geen feedback geven; ze hebben geen idee waar ze het over hebben').</i></p>	<p>Doel: belang van leerlingfeedback helder maken + weerstand wegwerken.</p> <p>Introduceren Impact! tool</p>

<p>De tool 5 - 10 minuten</p>	<p>Uitleg over de tool (knoppencursus).</p>	<p>Introductie Impact! tool: Hoe ziet het er uit? Hoe log je in, waar kun je een les aanmaken, hoe kunnen leerlingen en collega's de stellingen beantwoorden en hoe doe je dat zelf?</p>	<p>Knoppencursus (korte variant)</p>
<p>Pauze ±10 minuten</p>			
<p>Effectiviteit Impact! cyclus 10 minuten</p>	<p>Uitleg over waarom de Impact! cyclus het gebruik van feedback kan verbeteren</p>	<p>M.b.v. de Impact tool:</p> <ul style="list-style-type: none"> - Krijgen docenten inzicht in verbeterpunten - Blijkt verbeteren lastig <p>Wat maakt een leergemeenschap effectief:</p> <ul style="list-style-type: none"> - Gedeelde visie - Gezamenlijk doel → Verbeteren leskwaliteit - Samenwerking is gefocust op leren en ontwikkelen - Zowel individueel als collectief leren - Netwerk - Vertrouwen, openheid en steun <p>Daarnaast is het cruciaal dat er genoeg steun, middelen en effectief leiderschap is om het team in stand te houden.</p>	<p>Wat is een PLC? Wat maakt een PLC effectief? Wat is cruciaal om een PLC in stand te houden?</p>
<p>Rol Impact! coach 10 minuten</p>	<p>Welke verwachtingen zijn er?</p>	<p>Welke verwachtingen hebben docenten van hun rol als Impact! coach? Waar verwachten zij tegen aan te lopen en wat hebben ze nodig van schoolleiding en collega's?</p>	<p>In gesprek met elkaar</p>
<p>Tips coaches 10 minuten</p>	<p>Tips voor coaches</p>	<p>Waar moeten coaches op letten?</p> <ul style="list-style-type: none"> - Creëer vertrouwen - Op de hoogte zijn waar iedereen mee bezig is - Collega's bezoeken of ontvangen in de les <p>Goede planning aanhouden</p>	<p>Tips</p>

<p>De cyclus 15 minuten</p>	<p>De Impact-cyclus uitleg + vervolg module (werkbijeenkomsten)</p>	<p>Je doorloopt in de werkbijeenkomsten de Impact! cyclus. ta. lyseren en interpreteren. bcenten bijeen om hun feedback te an op te stellen. Plan deze bijeenkomst structuur. Maak aan het eind een kopie weet waar iedereen mee bezig gaat. ij kan op lesbezoek gaan of in gesprek de acties en het project zo ver. Zorg d is voorbereid. Waar wil je het over Wat zijn de vervolgstappen?</p>	<p>Belangrijk om hierbij te focussen op de rol van de Impact! coach. Wat wordt van hem/haar verwacht. Waar denken zij tegen aan te lopen? Wat is belangrijk om van te voren te regelen?</p>
<p>Vragen en suggesties 5 minuten</p>	<p>Behandelen van vragen en suggesties.</p>		



Benodigdheden voor de docenten:

1. Een laptop die verbonden is met het internet (het netwerk van de school of 4G/5G)
2. Bij voorkeur ook een smartphone met een internetverbinding voor het uitproberen van de tool.



Vorbereiding op locatie

1. Zet de presentatie klaar.
2. Controleer of alle media in de presentatie werkt (eventuele YouTube-filmpjes en dergelijke)
3. Bij binnenkomst van de deelnemers controleren of er toegang tot wifi of internet is.



Werkvormen tijdens de training:

De aangeboden werkvormen worden ingezet om op wisselende manieren (interactie, kleine-groep-overleggen, presentatie, video etc.) de doelen van de training te bereiken.



Inhoudelijke toelichting op de training

Voorstellen en introductie

De training begint met een korte introductie. Je stelt jezelf als trainer voor. Dit kan aan de hand van een app of een filmpje. Bijvoorbeeld: maak een quiz in Kahoot! of LessonUp over jezelf en laat de cursisten dit raden. Uiteraard ben je vrij dit zelf in te delen en in te richten. Daarnaast hebben de deelnemers de tijd om zichzelf kort aan je voor te stellen. Docenten kennen elkaar al, probeer dit dus zo kort mogelijk te houden. Denk aan: 'steek je hand op als je meer dan 10 jaar in het onderwijs werkt' of 'steek je hand op als je altijd op deze school hebt gewerkt'.

Voorkennis/verwachtingen

Voorkennis wordt altijd geactiveerd tijdens de training. Dit kan expliciet, maar kan ook verweven worden in een andere fase, zoals 'het waarom'. Bij het ophalen van de voorkennis laat je alle docenten nadenken over het onderwerp. Maak gebruik van activerende werkvormen die als voorbeeld gegeven worden of bedenk zelf werkvormen die bij jou passen.

Kern

De kern van de module gaat over het effectief benutten van (leerling)feedback over leskwaliteit om lessen te verbeteren. Hiervoor wordt de Impact! cyclus gebruikt, waarin docenten gezamenlijk werken aan verbeteren van leskwaliteit op basis van feedback die ze ontvangen over hun lessen.

Impact! coaches weten wat er van hen verwacht wordt, waar ze tegen aan kunnen lopen en hoe ze ervoor kunnen zorgen dat de Impact! cyclus goed verloopt. Zorg ervoor dat er veel interactie is en mogelijkheid tot vragen stellen of eventueel in discussie gaan met elkaar.

Tot slot leg je de Impact-cyclus uit. Door deze cyclus werken docenten gezamenlijk en systematisch aan het verbeteren van hun leskwaliteit op basis van de feedback die ze ontvangen. De cyclus is verwerkt in de werkbijeenkomsten. Zo zien docenten meteen wat er van hen verwacht wordt tijdens deze module. Je legt ook uit wat de eindopdracht inhoudt.

Weerstand

Houd rekening met de natuurlijke weerstand die docenten ervaren bij een verandering. Probeer dus de verwachtingen goed in kaart te brengen en goed aan te sluiten bij hun visie.

Meer informatie



Als je meer wilt weten over de Impact! cyclus of over onderdelen daarvan, neem dan contact op met Silke Heesen (s.h.heesen@student.utwente.nl) of Hannah Bijlsma (h.j.e.bijlsma@utwente.nl).

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APPENDIX FIVE: OUTLINE TRAINING IMPACT! TEAM

IMPACT! INTRODUCTIEBIJEENKOMST



leerdoelen van deze training

- Docenten hebben kennis en inzicht over de achtergrond van de Impact! tool over effectieve (leerling-)feedback
- Docenten kunnen de Impact! tool gebruiken
- Docenten hebben inzicht in de Impact cyclus en weten wat er van hen verwacht wordt tijdens de verschillende fases.



Tijdsplanning training

De training			
Inhoud/ duur	Onderwerp	Activiteit	Opmerkingen
Introductie 5 minuten	Voorstellen en verwachtingen docenten helder hebben	Gebruik een passende vorm om je zelf voor te stellen en de verwachtingen van deelnemers te peilen.	Doel: Verbinding maken
Wat hoop je te leren? 5 minuten	Inventarisatie en ophalen "haakjes"	Je inventariseert waarom docenten bij de training zijn en wat ze hopen te leren. Dit wordt eventueel aangevuld met hierboven geschreven aspecten over het 'waarom' van de training.	Doel: Verwachtingen verhelderen/ voorkennis ophalen en activeren.
Het waarom 5 - 10 minuten	Waarom zou je feedback van leerlingen vragen?	<ul style="list-style-type: none"> - Gemakkelijk (in vergelijking met andere vormen van feedback). - Leerlingen zijn de doelgroep van het onderwijs dat gegeven wordt. - Leerlingen kunnen aangeven wat hun (leer)behoeften zijn en op basis daarvan kun je je lessen verbeteren. - Betrouwbaar beeld van leskwaliteit (t.o.v. lesobservaties en zelfevaluaties). <p><i>In deze fase kan eventuele weerstand tegen leerlingfeedback weg genomen worden ('leerlingen kunnen als leek mij als leraar toch geen feedback geven; ze hebben geen idee waar ze het over hebben').</i></p>	Doel: belang van leerlingfeedback helder maken + weerstand wegwerken. Introduceren Impact! tool

<p>Wat zegt onderzoek? 10 minuten</p>	<p>Wat is er bekend uit onderzoek over het verzamelen en benutten van (leerling)feedback?</p>	<p>Leerlingfeedback</p> <ul style="list-style-type: none"> - Betrouwbaarheid en validiteit van leerling-perceptie van leskwaliteit - Wat weten we over lesaspecten die effectief zijn voor het leren van leerlingen? - Wat weten we over factoren die (het gebruik van) leerlingfeedback beïnvloeden? <p>Feedbackbenutting:</p> <ul style="list-style-type: none"> - Betere leskwaliteit, mits intensief traject voor het verbeteren ervan (ingaan op factoren die hiervan op invloed zijn). 	<p>Doel: Kennisoverdracht over inzichten uit onderzoek</p>
<p>Pauze ±15 minuten</p>			
<p>De tool 5 - 10 minuten</p>	<p>Uitleg over de tool (knoppencursus).</p>	<p>Introductie Impact! tool: Hoe ziet het er uit? Hoe log je in, waar kun je een les aanmaken, hoe kunnen leerlingen en collega's de stellingen beantwoorden en hoe doe je dat zelf?</p>	<p>Knoppencursus</p>
<p>De Impact! vragen 5 minuten</p>	<p>Inhoud vragenlijst</p>	<p>Welke stellingen beoordelen leerlingen, docenten en observatoren (collega's)?</p>	
<p>Effectiviteit Impact! cyclus 10 minuten</p>	<p>Uitleg over waarom de Impact! cyclus het gebruik van feedback kan verbeteren</p>	<p>M.b.v. de Impact tool:</p> <ul style="list-style-type: none"> - Krijgen docenten inzicht in verbeterpunten - Blijkt verbeteren lastig <p>Wat maakt een leergemeenschap effectief:</p> <ul style="list-style-type: none"> - Gedeelde visie - Gezamenlijk doel → Verbeteren leskwaliteit - Samenwerking is gefocust op leren en ontwikkelen - Zowel individueel als collectief leren - Netwerk - Vertrouwen, openheid en steun <p>Daarnaast is het cruciaal dat er genoeg steun, middelen en effectief leiderschap is om het team in stand te houden.</p>	<p>Wat is een PLC? Wat maakt een PLC effectief? Wat is cruciaal om een PLC in stand te houden?</p>

<p>De cyclus 15 minuten</p>	<p>De Impact-cyclus uitleg + vervolg module (werkbijeenkomsten)</p> <p>Hoe kun je (leerling)feedback effectief benutten?</p>	<p>Je doorloopt in de werkbijeenkomsten de Impact! cyclus.</p> <p>Introductievideo Impact! cyclus Introductie Impact! team, Impact! coach en Impact! cyclus:</p> <p>6. Geef een les en verzamel feedback over de les vanuit drie perspectieven (jezelf, je leerlingen en een collega)</p> <p>7. Je gaat de feedback interpreteren en analyseren. Vergelijken van de feedback en onduidelijkheden verhelderen (in gesprek met leerlingen):</p> <ul style="list-style-type: none"> - Ga met leerlingen in gesprek over de feedback: je wilt dat leerlingen jou serieus nemen. - Ga met collega's in gesprek over de feedback die je hebt ontvangen. Bekijk elkaars scores en zoek actief naar verbeterpunten. - Bediscussieer: hoe ga je werken aan verbetering? Hoe kun je beter worden op jouw specifieke verbeterpunt? - Stel je zelf kwetsbaar op - Leg de resultaten van leerlingen en collega's naast je eigen oordeel over de les. - Monitor je verbetering <p>8. Gezamenlijke meeting. Je vergelijkt de sterke en zwakke punten uit jouw les met die van collega's. Je maakt een verbeterplan met verbeteringsgerichte acties.</p> <p>9. Je voert de acties uit.</p> <p>10. Je reflecteert op de uitgevoerde acties (tot nu toe) en op het proces.</p>	<p>Inhoudelijk raamwerk neerzetten. Iedereen weet wat de cyclus inhoudt en wat er wanneer van hem/haar verwacht wordt.</p>
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Inloggen en aan de slag 10 minuten	Les aanmaken en proberen	Maak met je collega's een les aan en voorzie je collega van fictieve feedback.	Oefenen met de tool.
Vragen en suggesties	Behandelen van vragen en suggesties.		



Benodigdheden voor de docenten:

1. Een laptop die verbonden is met het internet (het netwerk van de school of 4G/5G)
2. Bij voorkeur ook een smartphone met een internetverbinding voor het uitproberen van de tool.



Vorbereiding op locatie

1. Zet de presentatie klaar.
2. Controleer of alle media in de presentatie werkt (eventuele YouTube-filmpjes en dergelijke)
3. Bij binnenkomst van de deelnemers controleren of er toegang tot wifi of internet is.



Werkvormen tijdens de training:

De aangeboden werkvormen worden ingezet om op wisselende manieren (interactie, kleine-groep-overleggen, presentatie, video etc.) de doelen van de training te bereiken.



Inhoudelijke toelichting op de training

Voorstellen en introductie

De training begint met een korte introductie. Je stelt jezelf als trainer voor. Dit kan aan de hand van een app of een filmpje. Bijvoorbeeld: maak een quiz in Kahoot! of LessonUp over jezelf en laat de cursisten dit raden. Uiteraard ben je vrij dit zelf in te delen en in te richten. Daarnaast hebben de deelnemers de tijd om zichzelf kort aan je voor te stellen. Docenten kennen elkaar al, probeer dit dus zo kort mogelijk te houden. Denk aan: 'steek je hand op als je meer dan 10 jaar in het onderwijs werkt' of 'steek je hand op als je altijd op deze school hebt gewerkt'.

Voorkennis/verwachtingen

Voorkennis wordt altijd geactiveerd tijdens de training. Dit kan expliciet, maar kan ook verweven worden in een andere fase, zoals 'het waarom'. Bij het ophalen van de voorkennis laat je alle docenten nadenken over het onderwerp. Maak gebruik van activerende werkvormen die als voorbeeld gegeven worden of bedenk zelf werkvormen die bij jou passen.

Kern

De kern van de module gaat over het effectief benutten van (leerling)feedback over leskwaliteit om lessen te verbeteren. Hiervoor wordt de Impact! cyclus gebruikt, waarin docenten gezamenlijk werken aan verbeteren van leskwaliteit op basis van feedback die ze ontvangen over hun lessen.

Docenten kunnen (leerling)feedback over hun leskwaliteit effectief benutten, als ze weten wat dit hen oplevert. Daarom is de 'waarom-fase' een belangrijk onderdeel van de training. Hierin vertel je docenten waarom het benutten van (leerling)feedback over hun leskwaliteit belangrijk is. Dit koppel je aan het 'waarom' van de module (eerder beschreven). Ook eventuele weerstand en misvattingen kunnen hierin weggenomen worden. Zoals: een leerling kan toch niets zinnigs zeggen over mijn lessen?

Tijdens de training vertel je docenten over de theorie achter feedbackbenutting. Hierbij wordt een aantal belangrijke wetenschappelijke gedeeld en besproken. Denk aan de betrouwbaarheid en validiteit van (leerling)feedback, theorie over feedbackbenutting en theorie over verbeteren van leskwaliteit.

Docenten bekijken en bespreken de stellingen die leerlingen, collega's en zichzelf over de les beoordelen. Docenten krijgen ook een 'rondleiding' door de tool en ze leren de docenten web-omgeving kennen. Ze oefenen met het aanmaken van een les, het beoordelen van de stellingen en het analyseren en interpreteren van de resultaten.

Tot slot leg je de Impact-cyclus uit. Door deze cyclus werken docenten gezamenlijk en systematisch aan het verbeteren van hun leskwaliteit op basis van de feedback die ze ontvangen. De cyclus is verwerkt in de werkbijeenkomsten. Zo zien docenten meteen wat er van hen verwacht wordt tijdens deze module. Je legt ook uit wat de eindopdracht inhoudt.

Weerstand

Houd rekening met de natuurlijke weerstand die docenten ervaren bij een verandering. Probeer dus de verwachtingen goed in kaart te brengen en goed aan te sluiten bij hun visie.

Meer informatie



Als je meer wilt weten over de Impact! cyclus of over onderdelen daarvan, neem dan contact op met Silke Heesen (s.h.heesen@student.utwente.nl) of Hannah Bijlsma (h.j.e.bijlsma@utwente.nl).

Impact op onderwijs' is een product van de Universiteit Twente en Crolox B.V.

UNIVERSITEIT TWENTE.



APPENDIX SIX: QUESTIONNAIRE TEACHERS

<p>Bedankt voor het deelnemen aan deze eerste enquête m.b.t. het Impact! project. Als het goed is, is de Impact! cyclus op dit moment één keer doorlopen en is er in de afgelopen weken verschillende keren gebruik gemaakt van de Impact! tool. Per fase uit de Impact! cyclus zullen er een paar korte vragen worden gesteld. Het invullen van deze enquête zal slechts enkele minuten in beslag nemen en het helpt ons om de Impact! tool en cyclus te verbeteren.</p>		
Personalia	Q1: Naam docent (optioneel)	Uitgeschreven door docent
Personalia	Q2: Naam School	Uitgeschreven door docent
Personalia	Q3: In welk(e) vak(ken) geeft u les?	Uitgeschreven door docent
Gebruikt?	Q4: Heeft u de Impact! tool in de afgelopen weken gebruikt?	Antwoordmogelijkheden: 1. Ja [1] 2. Nee [2]* *vragenlijst wordt afgesloten
Fase 1: Data verzamelen		
Frequentie IMPACT-feedback	Q5: Hoe vaak heeft u de afgelopen weken de Impact! tool gebruikt tijdens de les?	Uitgeschreven door docent
Fase 2: Data analyseren		
Uitgevoerde verbeteracties Aantal + aard	Q6: Wat heeft u gedaan met de feedback? (Meerdere antwoorden mogelijk)	Antwoordmogelijkheden: 1. De scores die de leerlingen gegeven hebben, heb ik bekeken. 2. De scores die leerlingen gegeven hebben, heb ik besproken met leerlingen 3. Ik heb de feedback besproken met mijn Impact! coach. 4. Ik heb de feedback met mijn collega buddy besproken. 5. Ik heb mijn feedback gedeeld binnen het Impact! team. 6. Ik heb niks met de feedback gedaan.
Gesprek met klas	Q7: Indien u de feedback heeft besproken met leerlingen. Met wie bent u dan in gesprek gegaan over de resultaten van de app? (Meerdere antwoorden mogelijk)	Antwoordmogelijkheden: 1. Met de hele klas 2. Met een groepje leerlingen uit de klas. 3. Met een individuele leerling uit de klas. 4. N.v.t.
Acceptatie feedback	In hoeverre bent u het eens met de onderstaande stellingen? Q8: De feedback die ik van leerlingen via de Impact! tool kreeg, gaf de sterke kanten van mijn les goed weer. Q9: De feedback die ik van leerlingen via de Impact! tool kreeg, gaf de minder sterke kanten van mijn les goed weer.	Antwoordmogelijkheden: 1. helemaal mee oneens 2. mee oneens 3. mee eens 4. helemaal mee eens

Fase 3: Verbeterplan opstellen		
Inzicht in verbeterpunten	Q10: Wat ziet u n.a.v. de app-feedback als <u>verbeterpunten</u> voor uw lessen? (Meerdere antwoorden mogelijk)	Antwoordmogelijkheden: <ol style="list-style-type: none"> 1. Duidelijk aangeven wat de leerlingen gaat leren. 2. De lesstof duidelijk uitleggen aan de klas. 3. De lessen goed aansluiten bij wat de leerlingen al weten. 4. Goed in de gaten houden of de leerlingen de lesstof snappen. 5. Vragen stellen over de lesstof die leerlingen aan het denken zetten. 6. Ervoor zorgen dat, als leerlingen de lesstof niet snappen, zij het daarna wel snappen. 7. Ervoor zorgen dat er hard gewerkt wordt tijdens de les. 8. Ervoor zorgen dat leerlingen het durven te zeggen als zij iets niet snappen. 9. Zorgen voor een goede sfeer tijdens de les. 10. Het tempo van de les afstemmen op de leerlingen. 11. Als een leerling een fout antwoord geeft, uitleggen waarom het antwoord niet goed was. 12. De leerlingen activeren tijdens de les. 13. Genoeg tijd geven aan leerlingen om aan opdrachten te werken. 14. Aan het eind van de les samenvatten wat leerlingen geleerd hebben in de les. 15. Anders, namelijk...
Inzicht in verbeteracties	Q11: Welke verbeteracties heeft u voorgenomen om uit te voeren?	Antwoordmogelijkheden: <ol style="list-style-type: none"> 1. Ik heb voorgenomen om een collega om tips te vragen. 2. Ik heb voorgenomen om bij een collega in zijn/haar les te observeren. 3. Ik heb voorgenomen om mijn lesvoorbereiding aan te passen. 4. Ik heb voorgenomen om informatie op te zoeken op het internet of elders. 5. Ik heb voorgenomen om me in te schrijven voor een scholing/cursus. 6. Anders, namelijk...

Fase 4: Verbeterplan uitvoeren		
Uitgevoerde verbeteracties	Q12: Op welke punten heeft n.a.v. app-feedback <u>uw lessen aangepast</u> ?	Antwoordmogelijkheden: <ol style="list-style-type: none"> 1. Duidelijk aangeven wat de leerlingen gaat leren. 2. De lesstof duidelijk uitleggen aan de klas. 3. De lessen goed aansluiten bij wat de leerlingen al weten. 4. Goed in de gaten houden of de leerlingen de lesstof snappen. 5. Vragen stellen over de lesstof die leerlingen aan het denken zetten. 6. Ervoor zorgen dat, als leerlingen de lesstof niet snappen, zij het daarna wel snappen. 7. Ervoor zorgen dat er hard gewerkt wordt tijdens de les. 8. Ervoor zorgen dat leerlingen het durven te zeggen als zij iets niet snappen. 9. Zorgen voor een goede sfeer tijdens de les. 10. Het tempo van de les afstemmen op de leerlingen. 11. Als een leerling een fout antwoord geeft, uitleggen waarom het antwoord niet goed was. 12. De leerlingen activeren tijdens de les. 13. Genoeg tijd geven aan leerlingen om aan opdrachten te werken. 14. Aan het eind van de les samenvatten wat leerlingen geleerd hebben in de les. 15. Anders, namelijk... 16. Geen van bovenstaande.
Inzicht in verbeteracties	Q13: Welke verbeteracties heeft u daadwerkelijk uitgevoerd?	Antwoordmogelijkheden: <ol style="list-style-type: none"> 1. Ik heb een collega om tips gevraagd. 2. Ik heb bij een collega in zijn/haar les geobserveerd. 3. Ik heb mijn lesvoorbereiding aangepast. 4. Ik heb informatie opgezocht op het Internet of elders. 5. Ik heb me ingeschreven voor een scholing/cursus. 6. Ik heb niets met de feedback gedaan. 7. Anders, namelijk...

Fase 5: Reflecteren		
Gebruik Impact! tool	<p>In hoeverre bent u het eens met de onderstaande stellingen?</p> <p>Q14: De Impact! tool motiveert mij om vaker feedback aan leerlingen te vragen.</p> <p>Q15: Ik heb meestal gebruik gemaakt van feedback die ik van leerlingen via de Impact! tool kreeg.</p>	<p>Antwoordmogelijkheden:</p> <ol style="list-style-type: none"> 1. helemaal mee oneens 2. mee oneens 3. mee eens 4. helemaal mee eens
Ondersteuning Impact! cyclus	<p>In hoeverre bent u het eens met de onderstaande stellingen?</p> <p>Q16: De Impact! cyclus heeft mij voldoende ondersteuning gegeven om mijn lessen te verbeteren op basis van de feedback die ik van leerlingen via de Impact! tool kreeg.</p> <p>Q17: Door het volgen van de Impact! cyclus in een team heb ik meer met de feedback uit de Impact! tool gedaan dan wanneer ik dit alleen moest doen.</p> <p>Q18: Het volgen van de Impact! cyclus kan leiden tot een duurzame verbetering van mijn leskwaliteit.</p>	<p>Antwoordmogelijkheden:</p> <ol style="list-style-type: none"> 1. helemaal mee oneens 2. mee oneens 3. mee eens 4. helemaal mee eens
Opmerkingen	<p>Q19: Geef eventuele opmerkingen of tips voor het verbeteren van de Impact! tool of de Impact! cyclus a.u.b. hieronder aan.</p>	<p>Uitgeschreven door docent</p>
Einde enquête		

APPENDIX SEVEN: GENERAL QUESTIONNAIRE STUDENTS

Vragenlijst voor leerlingen

Geef aan in hoeverre jij het eens bent met onderstaande stellingen.

STELLING	<i>Helemaal niet mee eens</i>	<i>Niet mee eens</i>	<i>Eens</i>	<i>Helemaal mee eens</i>
1. De docent zorgt er meestal voor dat ik me veilig voel in de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. De docent vindt dat ik goed kan zijn in zijn/haar vak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. De docent bepaalt wat er gebeurt tijdens de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. De docent zorgt voor een fijne sfeer in de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. De docent zorgt ervoor dat ik meestal goed meedoe tijdens de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. De docent gebruikt meestal alle lestijd voor leren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. De docent zorgt er meestal voor dat ik luister tijdens de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. De docent vertelt meestal aan het begin van de les wat ik ga leren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. De docent vertelt meestal waarom ik ga leren wat we gaan leren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. De docent herhaalt meestal wat we eerder al hebben geleerd voordat we wat nieuws leren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. De docent legt de lesstof meestal zo uit dat ik het snap.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. De docent legt meestal uit hoe ik opdrachten kan maken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

STELLING	<i>Helemaal niet mee eens</i>	<i>Niet mee eens</i>	<i>Eens</i>	<i>Helemaal mee eens</i>
13. De docent legt meestal uit waarom een antwoord goed of fout is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. De docent laat mij meestal diep nadenken over de stof.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. De docent geeft meestal genoeg tijd om te oefenen met de lesstof.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. De docent herhaalt meestal aan het eind van de les wat we hebben geleerd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. De lessen gaan meestal niet te snel en niet te langzaam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. De docent controleert meestal of ik iets wel of niet snap tijdens de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Als ik de lesstof niet snap zorgt de docent er meestal voor dat ik het daarna wel snap.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Als ik het al snapte, dat laat de docent mij meestal moeilijker opdrachten maken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. De lessen van deze docent zijn leerzaam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Ik leer altijd wel iets tijdens de les.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Aan het eind van de les snap ik meestal de lesstof.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Ik kan de opdrachten van de les meestal wel maken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX EIGHT: OBSERVATION FORM

GENERAL

Check appropriate boxes.

- Meeting started on time.
- All team members were in attendance and engaged for the entire meeting.
- The Impact! coach guided the meeting.
- The meeting was well structured.
- Everyone was actively involved during the meeting.
- Participating teachers felt comfortable to share personal information.
- At the end of the meeting everyone knew what to do next.

Comments: _____

CONTENT

- The meeting started with clear goals.
- Every team member had the opportunity to discuss their experiences so far.
- There was an opportunity to provide tips/feedback to each other.
- Goals were set for the next meeting based on action steps.

Comments: _____

NOTES

Remarks: _____

Tips: _____

APPENDIX NINE: INTERVIEW QUESTIONS

Interview Impact! coach

Het gebruik van de tool	<ol style="list-style-type: none">1. Heeft u de Impact! tool in de afgelopen weken zelf gebruikt? Zo ja, hoe vaak en bij hoeveel verschillende klassen?2. Wat is uw ervaring met het gebruik van de tool?
Vorbereiding	<ol style="list-style-type: none">3. Hebben de training en hulpdocumenten u voldoende voorbereid op het project?4. Denkt u dat de docenten voldoende voorbereid waren?
Aanpak	<ol style="list-style-type: none">5. Heeft u van te voren de hele cyclus en alle bijeenkomsten ingepland?6. Is de planning zoals aangegeven in de handleiding logisch?7. Hoe ging de buddy vorming?
Bijeenkomsten	<ol style="list-style-type: none">8. Hoe heeft u de bijeenkomsten ervaren?9. Hoe heeft u de bijeenkomsten vormgegeven?
Rol van coach	<ol style="list-style-type: none">10. Hoe heeft u invulling gegeven aan uw rol van coach?11. Heeft u lessen van docenten geobserveerd of individuele gesprekken gehad met docenten?12. Wie binnen de school zou er geschikt zijn voor de rol van coach?13. Heeft u veel contact gehad met de schoolleiding?14. Zijn er dingen die moeten worden toegevoegd aan of weggehaald uit de rol van coach?
Algemeen	<ol style="list-style-type: none">15. Hoe heeft u de Impact! cyclus ervaren?16. Zijn er dingen die u zou aanpassen aan de Impact! cyclus?17. Kan de Impact! cyclus leiden tot een duurzame verbetering van leskwaliteit?18. Voor welke docenten zou dit project geschikt zijn?19. Hoe heeft u de grootte van de groep ervaren? Wat is ideaal?
Overig	<ol style="list-style-type: none">20. Heeft u overige op- of aanmerkingen t.o.v. het project?

Interview teacher

Persoonlijk	1. In welk(e) vak(ken) geeft u les?
Fase 1/ Het gebruik van de tool	2. Heeft u de Impact! tool in de afgelopen weken gebruikt? Zo ja, hoe vaak en bij hoeveel verschillende klassen? 3. Heeft u de tool gebruikt om een collega te observeren of om geobserveerd te worden door een collega? 4. Wat is uw ervaring met het gebruik van de tool? 5. Motiveert de tool om vaker feedback te vragen?
Fase 2	6. Wat heeft u gedaan met de feedback? Heeft u de feedback met iemand besproken? Zo ja, met wie? 7. Gaf de feedback duidelijk de sterke en minder sterke kanten van uw les weer?
Fase 3	8. Lukte het om verbeterpunten te definiëren op basis van de feedback? Kon u een concreet leerdoel formuleren? 9. Welke verbeteracties heeft u voorgenomen om uit te voeren?
Fase 4	10. Welke verbeteracties heeft u daadwerkelijk uitgevoerd?
Fase 5	11. Heeft u verbetering gezien en gereflecteerd op het proces?
Algemeen	12. Hoe heeft u de Impact! cyclus ervaren? 13. Geeft de Impact! cyclus voldoende ondersteuning om uw lessen te verbeteren op basis van de feedback die u van leerlingen via de Impact! tool kreeg? 14. Waren de fases in de Impact! cyclus logisch? Gaven ze voldoende ondersteuning? 15. Hoe heeft u de rol van de Impact! coach ervaren? 16. Hoeervaarde u het werken in een team? 17. Hoeervaarde u het samenwerken met een buddy? 18. Hebben de training en hulpdocumenten u voldoende voorbereid op het project? 19. Motiveert de Impact! cyclus om aan de slag te gaan met de tool? 20. Kan de Impact! cyclus leiden tot een duurzame verbetering van leskwaliteit? 21. Zou u de cyclus vaker doorlopen?
Overig	22. Heeft u overige op- of aanmerkingen t.o.v. het project?

APPENDIX TEN: DETAILED INTERVIEWS

Teacher 1

Teacher one is a starting in-service economics teacher at school 1. At this school the Impact! cycle was not finished, because after phase 3 teachers had to continue by themselves due to the COVID-19 measures. The teacher told that he had used the Impact! tool several times during the project. He stated that *“the tool was easy to use, even for someone who has no feeling with digitization.”* However, even though it is easy to use for both teachers and students, *“retrieving data from the tool can be more user-friendly and advanced.”* The teacher would like to have the ability to view the feedback per student and to compare data with teachers in school. According to the teacher by being able to compare data with other teachers *“you can learn a lot from each other and compare the results of the same class with different teachers.”*

After collecting the feedback, the teacher discussed the feedback within the Impact! team. However, according to the teacher *“the focus was on the positive outcomes only, because some teachers found it difficult to share criticism.”* Next to speaking with colleagues, the teacher also spoke about the feedback with a small group of students. He gave students the option to give their names and add a tip and top at the end of the questionnaire. Most students did this, which enabled the teacher to ask specific question to certain students. The teacher stated that *“the feedback provided was clear and adding the option of providing a tip and top was of added value, to let students say anything they felt was important to mention.”*

After collecting and analysing the feedback, the teacher worked with the feedback by himself, because the project at school was stopped due to the COVID-19 measures. The teacher did not really follow the steps of the Impact! cycle, even though he thought that the Impact! cycle was very clear and had a logical sequence of steps. However, for this teacher the Impact! cycle was not necessary, but he could imagine that for some teachers it can give extra guidance. According to the teacher *“the Impact! cycle should be part of the IPB cycle at school in which teachers and team leaders regularly meet. When collecting data with the tool you immediately have feedback from a lot of students and a topic to talk about. This also makes the project more attractive to the school management, because they immediately have something tangible to use it on.”*

Overall, the teacher would definitely use the tool more often, if it will be further developed. For instance, by adding the function to review data per student and not the class as a whole, compare data with teachers and having different questionnaires. Then it would be a useful in many schools during progress talks between teachers and school leaders. For this teacher the Impact! cycle is not necessary and he does not feel the need to work in a team. However, it would be nice to share feedback with direct colleagues.

Teacher 2

Teacher two is a starting in-service English teacher at school 2. She has used the tool several times and thought it was very user friendly and easy to use. She had no technical issues and told the tool was very appealing to students, due to the digital aspect. Next to this, according to her *“questions are easy to answer for students, and it is nice that students are forced to think about whether they think something is good or not, because there is no neutral answer.”* Overall, the questionnaire was informative and extensive, however she stated *“it would be nice to have the option to select specific questions, because not every question is applicable to every lesson.”*

The teacher has discussed her feedback within the Impact! team and said it was easy to formulate a point of improvement based on the feedback, because it was focused on specific qualities. When looking back on her point of improvement, she realises it was too broad to work on in a few weeks. Therefore, she would have liked to get more guidance in formulating a learning goal in phase 3 of the Impact! cycle.

Overall, she thought the Impact! cycle was clear and gave enough support. *“All steps were very clear, each step was very goal-oriented and the next step was a logical sequence. Especially for starting in-service teachers and pre-service teachers it is nice to have some guidance so you know exactly what to do.”* However, she states that also experienced teachers would benefit from the Impact! cycle even though they might feel they do not need it as much, because *“the Impact! cycle is certainly always of added value.”* Considering the role of the Impact! coach, she thought this was nice, but not necessary when you make clear agreements within your team. She experienced working in a team namely positively, because she thought it was valuable to be able to discuss about the project with each other. Also working closely together with a buddy and observe each other's lessons would be nice, but she could not do that now due to lack of time. In the end, she would definitely use the Impact! tool and Impact! cycle more often and thinks it is suitable for every teacher within the school.

Teacher 3

Teacher 3 is an experienced physical education teacher at school 3. He was very positive about the Impact! tool and thought it was easy to use and user friendly. *“The great thing about the tool, is that it offers the possibility to quickly create a questionnaire yourself. Certainly for physical education this is important, because the standard questionnaire has a lot of irrelevant questions for this subject.”* However, he states that it would be nice to have more standard questionnaires in the tool for specific subjects such as physical education.

The teacher discussed his feedback within the Impact! team and also used it during his performance review meeting. He stated that *“the tool clearly indicated where there were areas for improvement. Which made it easy to define a learning objective.”* Even though this teacher has many

years of experience as a teacher he thought that the feedback was very useful because *“it makes you aware of how your role as a teacher is experienced by the students. This is specially nice for a teacher who has been in the profession for years, because some things have become very automatic.”*

After analysing the feedback, the teacher did not very consciously follow the Impact! cycle. However, the Impact! coach told the teachers what was expected from them and did steer towards the Impact! cycle. The teacher stated that it would be nice to be more aware of this next time, because *“the Impact! cycle consists of logical steps that give you good guidance.”* Besides giving good guidance the Impact! coach also worked as a big stick, which was nice because it forced the teacher to work with the feedback. However, the teacher stated that even though some guidance was nice, *“it has to wear out eventually, so that you are able to keep going through they cycle continuously by yourself without falling back into your old pattern. By continuously asking for feedback and analysing it, you stay sharp on your learning goals.”* Considering working in a team the teacher thought this was nice, but more could be done with it. *“Working with a buddy can be of added value and you can provide very valuable feedback to each other. Besides this you can also learn a lot from a teacher from another section.”*

Overall, the teacher would definitely use the Impact! tool more often and also make his own questionnaires. The Impact! cycle is a useful guidance in using the data and should slowly become routine. Also the Impact! cycle is suitable for starting and experienced teachers, because as he stated *“it has brought me back on track.”*

Teacher 4

Teacher four is a starting in-service nursing teacher at school 4 in which they offer practical education to students. She was not able to use the Impact! tool, because in her lessons students are not allowed to bring any digital devices. For this reason she only used the paper-based version of the questionnaire. The feedback she discussed with a group of students. According to her *“it was very valuable to discuss feedback with students, but it depends on how you feel about this as a teacher.”* After collecting and analysing the feedback she did not really follow with the other steps of the Impact! cycle. Reason for this, is that the Impact! coach was replaced half-way through the project. The teacher stated that they continued with the project, but it was not any good. There were some meetings, but these were not specifically focussed on the project.

Overall, it is hard for her to tell anything about the Impact! tool or Impact! cycle, because she could not fully experience it. About the Impact! tool she states that *“the tool is not useful for practical lessons and not all questions are equally suitable and understandable for students at practical education. Students did not understand a large part of the questions.”* Regarding the Impact! cycle she thinks that it is definitely suitable for all teachers, starting and experiences. However, *“for starting*

teachers it is better to start the project later in the year, because at the beginning of the year you are already busy enough finding your way around the school."

Impact coach 1

The first Impact! coach was coach at school 2 for a team of seven starting in-service teachers. She once tried to use the Impact! tool herself, but due to technical issues it did not work and afterwards she never tried again. As coach she did not plan all meetings beforehand. During a meeting the next meeting was planned. She told that by doing this it could be discussed with the teachers how much time they need and whether they are busy or not in the coming weeks. She also let all teacher decide by themselves with who they wanted to form a buddy. This could be within the team, someone within their section or the Impact! coach. *"What was most important was what worked easiest for the teachers."*

The Impact! coach experienced all meetings very useful and stated that *"it was nice to have everyone together and keep each other up to date."* In the first meeting in phase 3 there was a lot of time to discuss the feedback collected with the Impact! tool. This was very useful to do and everyone dared to speak out. The tool also helped to find a point of improvement and formulate a learning goal. According to the coach *"formulating a learning goal can usually be quite difficult. However, the feedback from the tool raised and confirmed a learning goal for each teacher."* After the meeting everyone send his or her plan of improvement to the Impact! coach so she knew what everyone was working on.

Regarding the advised planning for the Impact! cycle, the Impact! coach thought this was quite realistic. However, due to circumstances they ran out of the planning this time, but it is nice to keep up with the suggested planning next time, to keep the project running. The size of the Impact! team, which was seven teachers, was fine. She stated that it was not desirable to add more teachers to the team, because this makes it hard to discuss everyone's experiences during the meetings. Besides this, now she has visited every teacher to give feedback, which would be harder if the team consisted of more teachers.

Overall, she concludes that it is an interesting project for all teachers at school, not just starting teachers, but also for teachers who have years of experience. A reason for this is that she thinks the feedback collected with the Impact! tool is useful during performance interviews, because *"you can use the feedback easily to show what is going well and what is not. Next you can use the cycle to work on this and improve your lessons."* Furthermore, she thinks that the role of the Impact! coach is most important if teachers go through the Impact! cycle for the first time. Afterwards, they would be able to continue the project by themselves or within their section.

Impact! coach 2

The second Impact! coach was coach at school 3 together with someone else. At the school twelve teachers participated in the project, so the coaches decided to split this group into two, and both

coach six teachers. The Impact! coach has used the tool once herself, to experience how it works and be able to help participating teachers with the tool. She experienced the training for all Impact! coaches at the start of the project very useful. She even stated that she would be able to use this information to train the participating teachers herself. According to her this would be easier to schedule.

By the start of the meeting she scheduled all meetings to give all teachers a deadline by which they had to have things finished. Buddy's were formed within the team by the teachers themselves, to make sure they work with someone they feel comfortable with. She stated that *"it is nice to form buddies within the Impact! team, because then you both make yourself vulnerable by sharing personal data."* The meetings were fine, but not everyone did what was expected from them. This made it hard to discuss feedback or experiences, because not everyone was on the same track. A next time, she would send more reminder to all teachers, to make sure everyone does what is expected from them. During the meetings the group split up into smaller groups because *"in this way everyone could be vulnerable and share personal information."*

Overall, the Impact! coach has experienced the project positive. The size of the team was fine and by splitting up into smaller groups during meetings there was enough time to get into discussion and give feedback to each other. Sometimes she also spoke to the school leaders to keep them up to date, which was nice because by doing this they got more involved in the project. In the future time should be made for teachers to visit each other to observe lessons, because that was not possible at the moment. This should be further discussed with the school leaders. In the end she stated that *"the Impact! cycle would certainly be suitable for everyone to reflect on your lessons and improve them. Perhaps now it was a bit early in the year for starters with everything they already have to do, so they can start later."*

Impact! coach 3

The third Impact! coach was a coach at school 4 together with someone else. The Impact! team consisted of six teachers. These coaches started half-way during the project, because the original coach left the project. The coach first used the tool himself, to get some experience with it. He thought it was very easy to use. However, in practical education he experienced that students needed to be guided through the questionnaire. Therefore, maybe there could be an extra questionnaire in the tool for practical education.

Because the Impact! coach started half-way the project, he did not follow the advised planning. They did have a meeting with the team to speak about how they were doing so far. Also they asked for all teachers to send their plan of improvement according to the format to them. This format was very useful. According to the coach *"the plan of improvement is short but powerful. It is nice that a small learning goal has to be formulated, which helps as a success experience, as it can be easily reached. This is very motivating."*

The Impact! coach did not speak to any of the school leaders, because school leaders wanted to stay away from coaching as they have to do the performance reviews and do not want to be influenced by anything. The coach did speak to all participating teachers. This was easily done because it was a relatively small group. The size of the group was therefore fine, also because now everyone was able to share their experiences and discuss about this during the meetings.

Overall, the coach stated that *“the Impact! tool is definitely suitable for starting and experienced teachers. Especially for evaluation interviews you can use the tool to collect feedback, to get a first impression on your lessons.”* He does not think that for every teacher it is necessary to go through all steps of the Impact! cycle with a team, but it could be discussed individually with a coach.