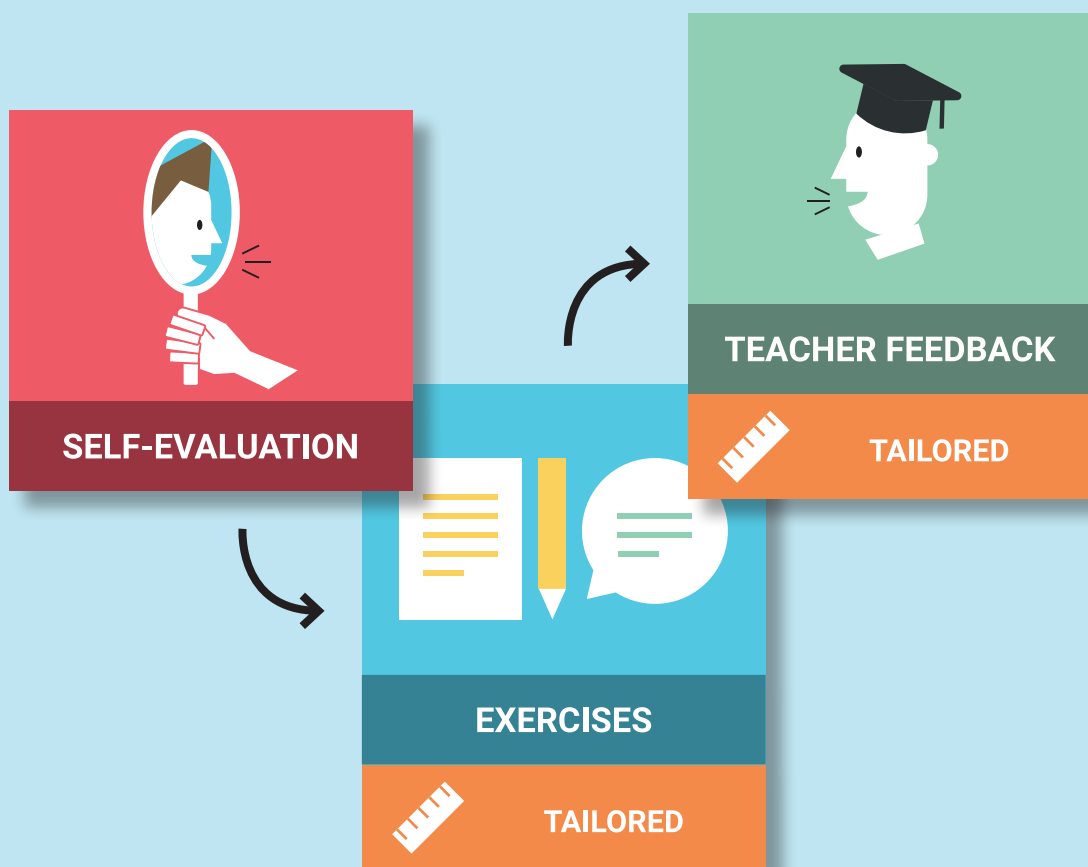


The SpeakTeach method

Towards self-regulated learning of speaking skills in foreign languages in secondary schools: an adaptive and practical approach



The *SpeakTeach* method

**Towards self-regulated learning of speaking skills in foreign languages in
secondary schools: an adaptive and practical approach**

Esther de Vrind

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The SpeakTeach method
Towards self-regulated learning of speaking skills in foreign languages in
secondary schools: an adaptive and practical approach

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Preface

Speaking skills in foreign languages have always been a special interest of mine. How much fun it is to be able to communicate in other languages, get to know new people and discover different worlds.

As a teacher of French and teacher educator for about 20 years, I have found that, in general, secondary school students also enjoy learning to speak a foreign language. They enter the first class enthusiastically, but this motivation seems to diminish over time and often after five or six years of foreign language learning students complain that they have done so little to improve their speaking skills and still cannot speak the language. Both beginning and experienced teachers indicate that it is so difficult to teach speaking skills due to shortage of time and large classes. Speaking lessons can quickly lead to noisy classrooms, getting a grip on the students' learning process is difficult, feedback seems to be ad hoc without the opportunity or need for the learner to repeat the speaking activity in an improved way and there is often no consciously designed structure in sequences of speaking assignments and supporting exercises leading to the achievement of speaking goals. A teaching approach leading to a coherent learning progression in speaking skills which allows teachers to guide students to become more competent in speaking a foreign language is needed.

Five years ago, when the opportunity was offered to do research into teaching methodology in the humanities relevant to academia and also practically relevant to teaching practice, I did not have to think for a second. I was eager to develop a teaching method for speaking skills that is adaptive for students and practical for teachers in their regular teaching practice. I am very grateful to Dudoc-Alfa and to ICLON Graduate School of Teaching, Leiden University, for giving me this opportunity. With this dissertation I hope to make a contribution to the academic world of research-based knowledge in the domain of teaching and learning foreign languages, but I think it is just as important to make a contribution to improving the teaching of speaking skills in foreign languages in secondary schools so that many students learn to speak with pleasure and success and can discover other worlds.

Dudoc-alfa program

The Dudoc-alfa program is a joint initiative of Dutch universities funded by the Ministry of Education, Culture and Science, that offers teachers and teacher educators the opportunity, alongside their jobs in education, to carry out PhD research in the field of teaching methodology in the humanities for a period of four years. The program aims to boost research into teaching methodologies of humanities subjects. Its aims include strengthening the domain-specific component in the education of university-trained teachers; improving the quality of education in the alpha subjects in secondary education; contributing to the innovation of education in the alpha subjects; and strengthening the link between teachers' teaching practice and academic research. With this thesis I hope to contribute to these important goals.

Chapter 1

General introduction

1.1 General introduction

Communication skills in foreign languages are of great importance for our functioning in all parts of society and for our functioning in the international context. Not only because of international economic interests (see e.g. Fenedex, 2007), but also because, as a member of a multicultural and globalized society, it is important for each individual to be able to communicate in other languages. It opens the way to world citizenship and leads, together with the development of intercultural competences, to understanding and openness towards people with a different cultural background (Council of Europe, 2001; Meesterschapsteam Moderne Vreemde Talen, 2018; Onderwijsraad, 2008).

For these reasons, speaking skills¹ in foreign languages are one of the important components in curricula and examinations programmes all over the world, in both general secondary education and pre-university education. Many stakeholders consider becoming autonomous foreign language learners² to be an important goal for students so that they can continue their language development (e.g. College voor Toetsen en Examens, 2020; Council of Europe, 2001; Holec, 1981; Lee, 1998; Little, Dam & Legenhausen, 2017). Autonomous language learners are able to self-regulate their own foreign language skills and take increasing responsibility for their learning in order to continue language development (Lee, 1998). That requires the students to have insight into their own learning process and, with respect to speaking, insight into what is needed to improve their own speaking skills. Students must learn to evaluate their performances, set targets, make plans to achieve those targets, learn to execute their plans and evaluate them, after which the cycle can be completed again (e.g. the teaching-learning cycle in the autonomy classroom, Little et al., 2017).

An autonomous learner is able to fulfil all these activities independently. However, most students need to be supported in learning to self-regulate their speaking skills. This support should be adaptive to the students, which means that the students receive the help they need (no more and no less) and that support is phased out gradually until they are able to self-regulate independently (e.g. Sadler, 1998). Teachers have to tailor feedback and adjust learning activities but adapting to their students' learning needs is a very complex process.

¹ The general term 'speaking skills' as used in this dissertation includes conversation skills and monologues (giving presentations) in foreign languages.

² In this dissertation 'learner' and 'student' are used as synonyms.

The first difficulty concerns the multitude of choices regarding feedback on speaking skills. Much research on feedback in the field of language acquisition has focused on the effectiveness of specific feedback types or strategies (Lyster, Saito & Sato, 2013). However, the conclusions drawn from such research are not simply transferable to the classroom context, because this kind of research usually focuses on a certain facet of feedback whereas teachers have to make complex choices with regard to all facets of feedback. Oral skills involve many aspects (pronunciation, vocabulary, grammar, fluency, message). As a result, learners may produce a great divergence in quality of output and, therefore, the foci of feedback may be diverse. Moreover, teachers not only have to make decisions about the focus of feedback, they have to quickly make many decisions about the kind of feedback to provide: what aspect of feedback, how to formulate the feedback, when to provide the feedback, and who should provide the feedback (see Figure 1, p.20).

Second, in order to choose an adequate kind of feedback which the learner actually understands and which fosters learning, teachers need to have insight into the individual learning process of each student. Socio-cultural theory (Lantolf, Thorne & Poehner, 2015; Aljaafreh & Lantolf, 1994; Poehner & Lantolf, 2005) states that no single specific feedback strategy is universally effective. Feedback is effective if it is in line with the student's zone of proximal development (Vygotsky, 1987). Therefore, the choice of focus, type or strategy of feedback depends on the individual learner's development and aims to guide the learner towards self-repair. In this respect, Aljaafreh and Lantolf (1994) proposed a "Regulatory Scale" of feedback with 12 levels from implicit at one end to explicit feedback at the other end in order to be able to provide not only gradual but above all contingent support. They recommend starting with the most implicit form and going to more explicit feedback if the learner appears to need it in order to improve. The instructional goal is to facilitate the transition from regulation by others to self-regulation (Aljaafreh & Lantolf, 1994). However, providing such adaptive feedback requires not only insight into the learners' speaking performance itself, but also into their understanding and noticing of their own speaking performance, their ability to improve their speaking skills (regulation skills) and affective factors which may influence the learning process (see Figure 1).

Third, this insight into all these aspects and levels of the learning process of each individual learner must be gained in the complex context of a classroom setting. In a one-to-one tutoring setting this is already difficult, let alone in regular classrooms of 25-30 students

who the teacher sees for only two or three lessons a week. Because of the transient nature of speech, opportunities for feedback pass by all too quickly. Uptake by the learners depends in a large part on their capacity to remember what has been said, and on having the opportunity to correct themselves and to practise a similar speaking act. Furthermore, the learning goal is not only to learn to self-regulate their own speaking skills, but also to cover all the content of the language curriculum. Besides these learning goals, the teacher must realise other goals at the same time, such as keeping order, creating and maintaining an optimal classroom climate, motivating students, managing time and resources, etc. (Kennedy, 2005; 2016b; Janssen, Westbroek & Doyle, 2015).

No wonder secondary school teachers in modern foreign languages in the Netherlands report that classes are too big and that this, along with lack of time and student dependency, impedes their training of speaking skills (Fasoglio, 2015). They tend to experience difficulties in providing adaptive feedback on speaking skills (Corda, Koenraad & Visser, 2012). According to Kwakernaak (2009: 243), providing feedback on speaking skills appears to be one of the most serious problems in foreign language teaching in the Netherlands. According to Lyster et al. (2013: 30), teachers should have a very wide repertoire of feedback types and strategies in order to make choices that meet their students' needs and that fit the instructional context. Descriptive studies have shown, however, that teachers have a limited feedback repertoire that does not always meet the learning needs of individual students (Gass & Mackey, 2012; Lyster et al., 2013; Yoshida, 2008). Furthermore, the opportunity for students to improve their speaking performance is often lacking. In secondary education a particular speaking task is often offered only once in a lesson series without additional instruction or practice and with limited opportunity for reflection after interaction (Goh, 2017; Goh & Burns, 2012; chapter 2 of Van Batenburg, 2018).

In conclusion, an adaptive approach is needed to support students in learning to self-regulate their learning process in speaking skills. However, a new teaching approach will only be implemented in the classroom if it is not only of benefit to students' learning but is also practical for teachers (Janssen et al., 2015). Practical for teachers means that the adaptive teaching approach provides concrete principles to realize adaptation to their students' needs in regular classes of 25-30 students, in the limited time available and in congruence with other goals teachers must achieve at the same time.

1.2 Objective of this thesis, main research question and methodological approach

The objective of this thesis, therefore, was to design and evaluate an approach for self-regulated learning of speaking skills that is adaptive for secondary school students and practical for teachers in their regular teaching practice. The main research question addressed in this thesis was: What are the design principles for an approach for self-regulated learning of speaking skills in a foreign language that is adaptive for students and practical for teachers?

This research targeted both development of solutions to a practical and complex educational problem that practitioners encounter and development and evaluation of theoretical knowledge in the form of design principles. Design principles are theoretically and empirically based principles that specify what to do to realize outcomes x in context z . Because an important feature of educational design research is to contribute to both educational practice and theory, it has been chosen as the method of research (McKenney, Nieveen & Van den Akker in Gravemeijer & Cobb, 2006: 110-143). Design studies often consist of two or more iterative cycles of design, implementation and evaluation. Based on theory development and practical knowledge, initial design guidelines are drawn up. These are translated into concrete teaching that is then put into practice. Interventions in classroom settings are tested using both quantitative and qualitative data. The evaluation of the new educational practice in turn provides theoretically and empirically grounded design principles for solving the identified complex educational problem. In educational design research the perception of practitioners is often used to determine whether the intervention leads to the intended results. Given the main research question, the students' perception of the adaptivity and the teachers' perception of the practicality of the approach to be developed were chosen as the crucial types of data in this dissertation. Since the perception of practitioners is important, design research is often participatory research. This also affects the role of the researcher. The role of the researcher is not one of observer, the researcher works closely with practitioners (in this case with the teachers) and designs new forms of education in order to solve problems in practice. The author of this thesis was not only the researcher but also the facilitator of the professional development trajectory who developed and shaped the learning process with the teachers.

1.3 Overview

In order to answer the main research question *What are the design principles for an approach for self-regulated learning of speaking skills in a foreign language that is adaptive for students and practical for teachers?*, four empirical studies were carried out (see chapters 2, 3, 4 and 5 below). Chapter 2 reports on a pilot study into a possible adaptive and practical approach with self-evaluation by students as a design principle. After this pilot study, three studies were carried out from two different perspectives, the perspective of the student and the perspective of the teacher, and with different foci.

Chapter 2

In the first phase of this research, based on a literature review, we conducted a pilot study to explore a design for an adaptive and practical approach for teaching speaking in a foreign language. Chapter 2 reports on this pilot study which explored whether self-evaluation by students can help teachers to gain insight into individual students' needs regarding speaking skills and to adapt their intended feedback to meet these needs. The self-evaluation was tested on a small scale by three French teachers who taught at three different secondary schools in two year-5 pre-university classes and one year-4 pre-university class³. In each class 5 or 6 students were chosen at random (n=17). We analysed the self-evaluation forms completed by the 17 selected students and described how the students evaluated their own work. In open structured interviews held with the three teachers we investigated whether their intended feedback and evaluation had shifted as a result of seeing the self-evaluations. Finally, the teachers were asked to evaluate the potential practicality of the evaluation procedure itself.

Chapter 3

Chapter 3 reports on the research from the perspective of the teachers and its focus is on practicality for teachers. The design principle on which the students' self-evaluation of the pilot study (chapter 2) was based was further elaborated into an adaptive approach with 'adaptive feedback' and 'activities for improvement'. This chapter addresses the question of

³ The Dutch education system offers differentiated secondary schooling by ability. Pre-university education (vwo in Dutch) is the most academic stream which prepares students to go on to university. Year 4 students are aged 15-16 and year 5 students are aged 16-17.

how to make the adaptive approach to teaching speaking skills in modern foreign languages practical for teachers so that they can actively use it in their teaching while retaining the essence of the method. We investigated the extent to which teachers were actually able to apply the developed teaching approach in their teaching practice. Based on questionnaires and visual representations of lessons, we examined how 13 teachers put the approach into practice and what considerations they took into account. The practicality of the developed teaching approach was examined using a teaching impact analysis (Janssen, Westbroek & Doyle, 2014a).

Chapter 4

Chapter 4 addresses the research question from the point of view of the students. This chapter poses the question of whether a self-evaluation procedure can be an adaptive resource for students at secondary schools to learn to improve their speaking skills in foreign languages and to self-regulate their learning. In a quasi-experimental study, we investigated to what extent changes occurred in the process of self-regulation in improving secondary school students' own speaking skills after four iterations of the self-evaluation procedure and to what extent they perceived the self-evaluation procedure as motivating and the received support as adaptive. To this end, 1,024 self-evaluations by 281 students of the experimental group were examined which contained diagnoses of their speaking performances, their plans for improvement and desired working format or requests for teacher's assistance. In addition, questionnaires were administered to both the experimental and the control group (n=369) on the students' perception of adaptivity of feedback and improvement activities. Finally, questionnaires were administered to the experimental group to measure the students' motivation for the different elements of the self-evaluation procedure.

Chapter 5

Chapter 5 elaborates the perspective of individual teachers and focuses on their professional development. This chapter investigates how teachers can be supported in expanding their teaching repertoire in the context of a specific innovation (the developed teaching approach of chapters 3 and 4). An adaptive development trajectory was designed based on two interrelated design principles: modularity and self-evaluation. We investigated whether adaptive learning routes could be realized within this development trajectory in which

teachers could achieve both the goals of the innovation (the developed teaching approach) and their own objectives in a way that fitted in with and built on what they were already doing in their teaching practice. To this end, self-evaluations by the teachers (n=11) of their own teaching practice were used. These self-evaluations included visual representations of their regular teaching practices and intended goals. They were used to determine how teachers implemented the different principles of the new teaching approach in consecutive lesson series and to describe the teachers' learning routes. In addition, the open questions of the impact analysis (Janssen et al., 2014a) were used to collect data about advantages and disadvantages of the regular teaching practice and lesson series designed according to the new teaching approach.

Finally, in chapter 6, insights from the various studies are brought together to answer the main research question.

Chapter 2

Pilot study into a possible adaptive and practical approach for speaking skills in a foreign language

This chapter is based on: De Vrind, E., & Janssen, F.J.J.M. (2016). Adaptieve feedback op gespreksvaardigheid in klassen van 30? Hoe is dat nu mogelijk? *Levende Talen Tijdschrift*, 17(2), 13-25.

Abstract

Research has shown that feedback significantly improves language skills (Lyster & Saito, 2010). However, modern foreign language teachers find it difficult to give adaptive feedback on speaking skills in standard classes of 30 students (Corda, Koenraad & Visser, 2012). In this study we first discuss how modern foreign language teachers regularly give feedback on speaking skills in relation to adaptive feedback. We then present a teaching approach based on self-evaluation by the student to facilitate teacher's adaptive feedback in everyday teaching illustrated with the aid of two practical case studies. It was explored whether self-evaluation by students can help teachers to gain insight in individual student's needs regarding speaking skills and to adapt their intended feedback to meet these needs. The self-evaluation was tested on a small scale by three French teachers who taught the final 3 years at three different secondary schools in two year 5 pre-university classes and one year 4 pre-university class. In each class 5 or 6 students were chosen at random (n=17). We analysed the self-evaluation forms completed by the 17 selected students and described how the students evaluated their own work. In open structured interviews held with the three teachers it was investigated whether their intended feedback and evaluation had shifted by seeing the self-evaluations. Finally, the teachers were asked to evaluate the potential practicality of the evaluation procedure itself. The results of this pilot study showed that the self-evaluation procedure seemed to encourage students to make concrete plans; teachers reported increased insight into their learners' learning process regarding speaking skills and showed shifts in their intended feedback after seeing the self-evaluations in order to attune their feedback. Furthermore, teachers evaluated the self-evaluation as a possible practical application in teaching practice.

2.1 Introduction

Speaking skills are an important component of the examinations programme for modern foreign languages in both higher general secondary education and pre-university education in the Netherlands (e.g. College voor Toetsen en Examens, 2020). Students have to achieve the attainment levels that are linked to the levels defined in the Common European Framework of Reference for Languages (CEFR, Council of Europe, 2001). The CEFR describes what the foreign language speaker can do (the can-do statements) and how well he can do it, but not

how this is to be achieved. Teachers may set up their lessons as they see fit. This means that the way speaking skills are embedded in the school curriculum can vary from school to school. Nevertheless, all students have to achieve the same final attainment levels at the same standard in free communication situations. This means that students need to have practised free production, the last phase in the exercise typology of Neuner, Krüger & Grever (1981) and that teachers must bring the individual students in a class of 30 up to the same final attainment levels, regardless of their diverse prior knowledge and language skills. Feedback can be a very effective tool in this regard (Hattie & Timperley, 2007), significantly improving speaking skills (Lyster & Saito, 2010). However, experience in continuing education and in classroom teaching shows that giving feedback on students' spontaneous dialogue is precisely the aspect of teaching that modern foreign language teachers find most difficult (Corda et al., 2012). This chapter explores how adaptive feedback on speaking skills can be provided in regular teaching.

2.2 Regular and desirable approach to giving feedback on speaking skills

A very common approach to giving feedback in secondary schools is for the teacher to walk around the classroom while students are talking to each other in pairs in the foreign language in order to spot problems that the teacher may then decide to correct. This regular method of giving feedback and a desirable approach can be characterised using the following questions: When is feedback given, on what, how and at what level? (see Figure 1).

When?

First and foremost descriptive studies have shown that teachers do not usually give much feedback and that their feedback is not divided equally among the students (Gass & Mackey, 2012). Because of their belief that feedback disrupts communication and can make students anxious about speaking (Lyster, Saito & Sato, 2013), teachers often give less feedback than the students want (Yoshida, 2008).

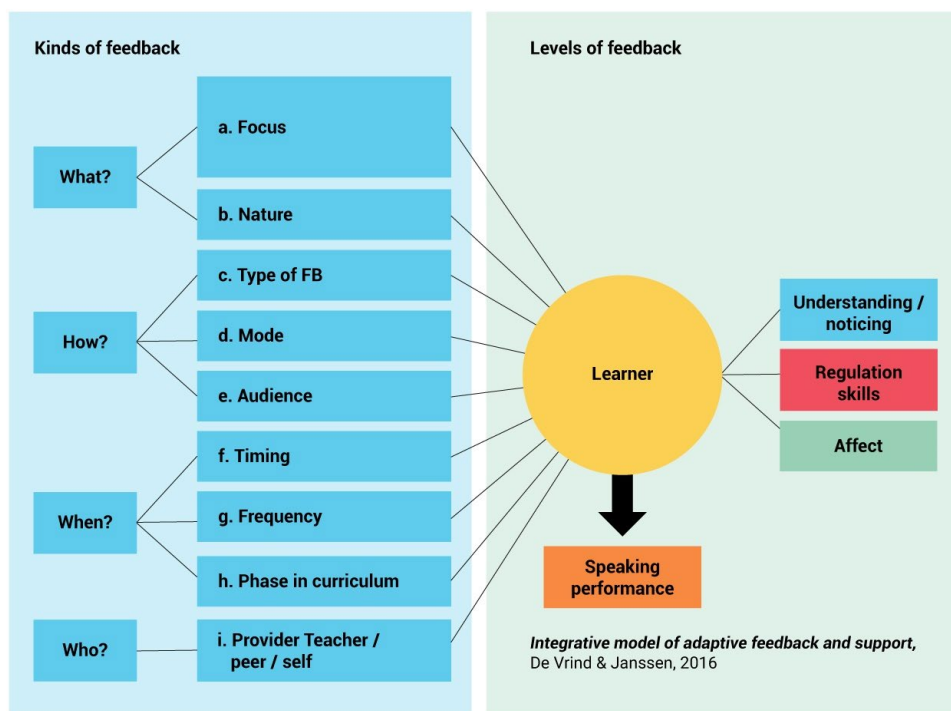


Figure 1: Integrative model of adaptive feedback and support

On what?

A second characteristic is the tendency of teachers to pay most attention to morphosyntactic errors (Lyster et al., 2013; Schuitemaker-King, 2013). According to Corda et al. (2012: 36, translated quote from Dutch) “[...] [this] usually works well as long as the students are being asked to use words and sentences that they have learned by heart in prestructured dialogues. The problems begin to arise with freer communication tasks [...] as [...] the students come out with less accurate expressions (though with greater fluency), which does not fit well with language teachers who have mostly been trained to aim for accuracy.” Research has shown, however, that feedback on vocabulary and on pronunciation is taken up more readily by learners (Lyster et al., 2013).

How?

When teachers do give feedback, it is often in the form of recasts (corrected reformulations of the learner’s utterances), because they do not interrupt the flow of communication (Lyster

et al., 2013). However, recasts turn out to be not always clear to students; how clear they perceive them to be depends on the context, the instruction, the individual student's leanings, the linguistic purpose and the length of the recasts (Lyster & Saito, 2010). Sheen (2011) demonstrated that explicit correction and metalinguistic explanation are more effective than recasts because they are clearer. Research has also shown that prompts (signals from the feedback-giver that encourage students to improve their own speaking) are also more effective than recasts (Lyster et al., 2013). Students even seem to prefer not to be explicitly corrected immediately but to be given more time to correct themselves if the mistake is one that they think they can improve themselves (Yoshida, 2008).

At what level?

Based on a literature study, we distinguished four levels on which feedback can be given: on the speaking performance itself, on the student's understanding of it, on the student's self-regulation and on affective factors (see right side of Figure 1).

Most feedback from teachers focuses on the students' speaking performances. However, there may be different underlying causes for the same mistake being made by different speakers: it could, for instance, be a slip, a misconception, lack of knowledge, or it could be due to a failure to master the language component by practice (Bennett, 2011). In order to give adequate feedback that the student will actually take in, teachers must not only focus on the speaking performance itself, but they also need to have insight into the extent to which the student understands and notices the feedback (Schmidt, 1990) (see Figure 1).

Moreover, feedback that only addresses students' speaking performances can make them dependent on the teacher and it does not encourage them to improve their own speaking skills (self-regulation) (Sadler, 1998). The teacher needs to have insight into the extent to which individual students can assess the discrepancy between the present situation and the desired situation and then make and monitor their own plans to bridge the gap (Sadler, 1998), and the teacher should then also provide feedback on that (feedback on regulation, see Figure 1).

Feedback on students' speaking performance, understanding and self-regulation is, however, pointless if there are affective obstacles, such as fear of speaking (Cheng, Horwitz & Schallert, 1999), negative attitudes or lack of motivation caused by beliefs about learning (Boekaerts, 2010) that prevent them from accepting feedback. In order to give adaptive

feedback, teachers therefore need to understand any affective factors that could be influencing how individual students interpret and filter the feedback and whether they are open to learning from the feedback.

To sum up: descriptive research has shown that teachers mainly give feedback at the level of speaking performance and have a limited feedback repertoire that does not always meet the learning needs of individual students. That is not surprising, since providing adaptive feedback on speaking skills in classes of 25-30 students (as is usual in the Dutch secondary education context) is complex. First of all, because of the transient nature of speech, the opportunity to give feedback passes quickly and how the student picks it up (the uptake) depends largely on his or her ability to remember exactly what was said, and on having the chance to improve it and practise it again. Furthermore, it is difficult to give feedback to 30 students, partly because the teacher has to realise other aims at the same time, such as motivating the students and keeping order in class. This means that any approach to adaptive feedback will only be successful if it not only aids the learning process, but is also an approach that teachers consider to be practical (Janssen, Westbroek & Doyle, 2015). With this in mind we designed a self-evaluation procedure for students and investigated whether this helped teachers to gear their feedback to the individual needs of students as they develop their speaking skills and whether it was practical for use in the regular classroom.

2.3 Core of the adaptive and practical feedback approach: self-evaluation by the student

From the discussion in the preceding section, it is clear that understanding the individual student is necessary for adaptive feedback: having insight into his or her speaking performance, understanding and noticing, self-regulation and affective factors (Figure 1). In order for the teacher to gain such insight, the feedback approach starts with a self-evaluation by the student. Moreover, it seems that self-evaluations can stimulate noticing in the student (Lappin-Fortin & Rye, 2014). Speaking correctly demands many cognitive processes in a short space of time (Levelt, 1989). Analysing a recording of their own speaking performance gives students time to think about their own speaking skills and how to improve them.

The procedure we used was as follows (see Figure 2):

- The students do a speaking task taken from the course programme (an open communicative task involving some free expression, phase C or D of the exercise typology van Neuner et al. (1981)) with a classmate and record it on their mobile phones.
- They then listen to their own speaking performance and analyse it with the aid of a self-evaluation form (see Appendix I, part A, B and C).
- The teacher takes in the self-evaluation forms and the recordings. The teacher then compares his/her own findings with those of the individual students, considers what each student needs and tailors feedback and support to the student in the form of exercises or instruction for the next lesson.
- In subsequent lessons the students follow their own plans to improve their speaking performance. The teacher is therefore practising differentiated teaching.
- At the end of the series of lessons the students do another similar speaking task, record it and analyse it using the self-evaluation form (steps a to d can be repeated, at this stage new speaking goals and exercises may be added by the students or the teacher).

The self-evaluation procedure is therefore an iterative learning process.

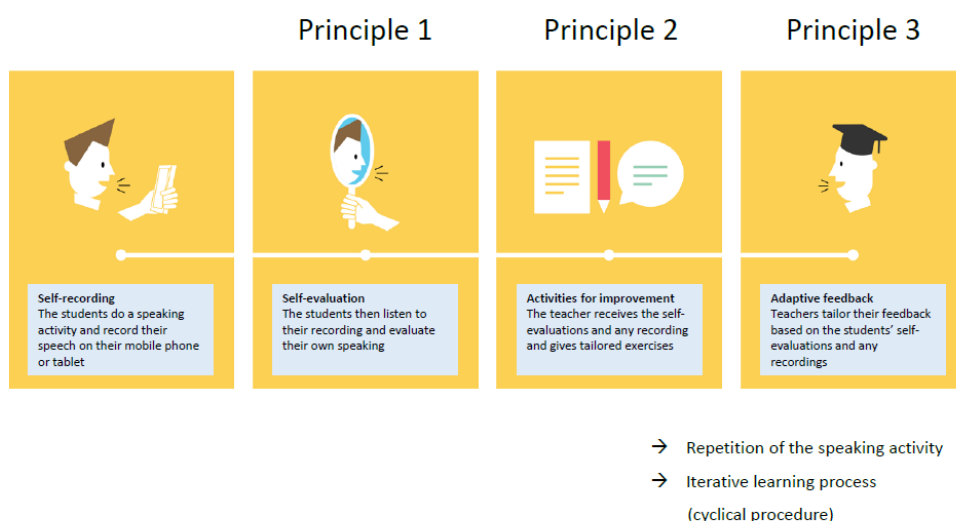


Figure 2: Self-evaluation procedure

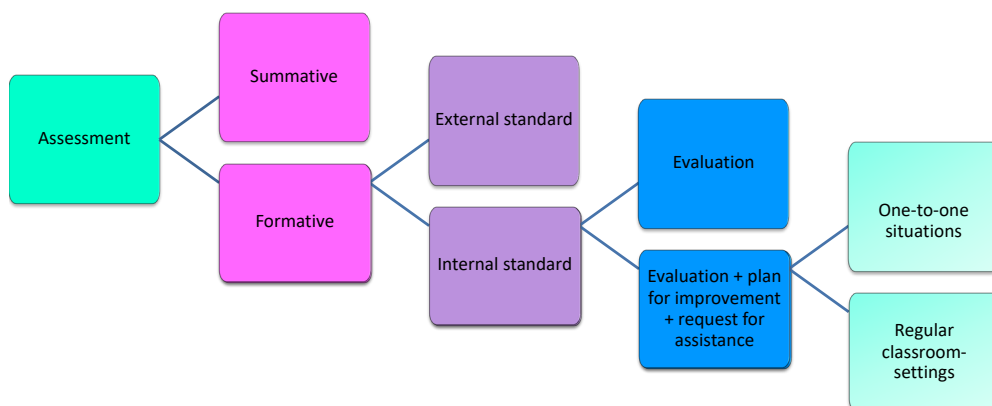


Figure 3: Positioning of the self-evaluation procedure

The use of student self-evaluation is not new. However, we have developed a specific approach in which both the quality of the adaptive feedback to the students and the practicality for the teacher can be improved. Figure 3 shows how we position our specific use of self-evaluations with respect to other approaches to self-evaluation.

Self-evaluations can be used at the end of the learning process to determine whether an individual has reached the targets (summative). However, this self-evaluation procedure is designed for evaluation during the phase of practising speaking skills in order to adapt the teaching (formative).

Moreover, unlike most uses of evaluation forms, such as rubrics, this self-evaluation procedure seeks to elicit the student's own subjective internal standards. The aim is not that students should be able to assess themselves accurately (e.g. Ross, 1998), but to gain insight into their assessment of themselves, so that lessons can be geared to the current level and degree of self-regulation of individual students.

The self-evaluation covers various linguistic aspects of language, such as grammar, vocabulary, pronunciation and fluency, as well as communicative competence: getting the message across. These aspects were borrowed from the CEFR though, for the sake of simplicity, we brought coherence, pragmatism and interaction together under the heading 'message' to avoid unnecessary confusion of concepts. After all, this study was not really

about getting students to analyse their mistakes and put them in the right categories. The aim was to get the students to reflect on various aspects of language and activities that improve their speaking skills. The self-evaluation form asked about both areas for improvement and positive points, as research in positive psychology has shown that reflecting on positive points activates positive emotions that in turn are beneficial to learning (Voerman, Meijer, Korthagen & Simons, 2012). The self-evaluation can reveal whether students themselves know what they are doing well. Imbalance in the self-evaluation, for example a narrow focus on only negative points, could be a reason for a conversation between teacher and student about the student's beliefs, attribution and negative feelings in the lessons. Then the teacher would focus his/her feedback on affective factors (see Figure 1).

Many existing approaches also focus in a one-sided way on analysis of performance, whereas in this procedure students also produce a plan for improvement and state what help they need. This means that the self-evaluation is to some extent self-managing, as it contains scaffolds, intermediate steps and support (Beeker, Canton & Trimbos, 2008), such as suggestions for their plans on how to tackle problems.

Finally, what is unique about this self-evaluation procedure is that it enables teachers to give adaptive feedback in classes of 25-30 students, while many other adaptive approaches often take place outside the classroom in one-to-one situations (e.g. Poehner, 2012). The approach is intended to be practical in the sense that it can be used during normal classroom teaching. It works in such a way that all of the students are actively engaged. Within 30 minutes during class, the students have done their speaking task and analysed their recording. Then the teacher quickly scans the self-evaluation forms for discrepancies and tailors his/her feedback and activities for the next lesson to the students.

2.4 Investigation of the self-evaluation procedure: shifting feedback

To investigate whether the self-evaluation procedure really helped teachers to adapt their proposed feedback to meet individual students' needs regarding speaking skills and to evaluate whether the approach is practical in everyday teaching, the procedure was tested on a small scale by three French teachers who taught the final 3 years at three different secondary schools in two year 5 pre-university classes and one year 4 pre-university class. In each class 5 or 6 students were chosen at random ($n=17$). For the purposes of this study, it was not necessary to select students with exactly the same level of language skills, background,

motivation or other variables, because we were particularly interested in how teachers deal with all those different student characteristics. We did opt to select students from the final 2 years of secondary school who were working with materials at level B1, because we assumed that at the more senior levels students' speaking performances would be more diverse as they have more knowledge of the foreign language and more experience with speaking than beginners. They would therefore have more opportunities to express the same message in different ways, making it more complex for the teachers to respond. We opted to work with experienced teachers, because we assumed that they would have experience in assessing their students' speaking skills and would therefore be able to evaluate the added value offered by the self-evaluation procedure.

We analysed the self-evaluation forms (see Appendix I) completed by the 17 selected students and described how the students evaluated their own work. The answers were entered into a matrix under the headings: positive points, errors, plans for improvement and help needed. We then categorised these under the parameters: message, vocabulary, grammar, pronunciation and fluency. The researcher (the author) interpreted how concrete the students' evaluations were, their consistency and discrepancies between the positive points, errors, plans for improvement and help needed.

Open structured interviews were held with the three teachers which each lasted for approximately 2 ½ hours. There were three phases to each interview in which the teachers were asked about positive points, errors, plans for improvement and help needed with respect to each selected student and about the feedback they proposed to give.

In the first phase, they were asked to evaluate the student based on their own knowledge of him or her. We asked them to do this because we wanted to find out what ideas the teachers already held about their students' achievements and learning needs. The fact is that teachers use these ideas about what students are capable of to adapt their teaching and they are based on the many previous experiences that the teacher has had with the student in all kinds of situations (Bennett, 2011).

In the second phase, the students' recorded dialogues were played to the teachers, who were then asked if they wanted to change anything or add to their evaluations. This was done to allow conclusions to be drawn later about whether it was necessary to listen to each student's recording (as this takes a lot of time and therefore does not meet the practicality criterion).

In the third phase, the teachers were asked to comment on their students' self-evaluation forms, and they were also asked what feedback they would now give. The results from the third phase were compared with the teachers' answers from the first phase in order to ascertain whether the feedback and evaluation had shifted at all.

Finally, the teachers were asked to evaluate the evaluation procedure itself: Did the self-evaluation procedure improve their understanding of the individual students? Was it helpful? Would they use it in their own teaching? How would they follow this up in future lessons? What were the advantages and disadvantages of this self-evaluation procedure?

2.5 Results

Table 2.1 is a complete overview of the 17 cases showing how often the teacher agreed with the students' self-evaluations and how often they changed their feedback because of the self-evaluations. In over half of the cases, the teachers changed their assessments with respect to positive points and errors after reading the students' self-evaluations. Furthermore, the teachers' understanding of what was needed for the students to improve their speaking skills changed when they had viewed the students' own plans for improvement (in the case of 14 of the 17 students). In almost all cases the teachers reported that they had changed their feedback as a result of seeing the self-evaluations. Table 2.2 shows how the focus of the teachers' intended feedback shifted. As a result of the self-evaluations, the focus of the feedback broadened, was more closely geared to the individual students' plans and was more specific.

Two cases from our study illustrate how the feedback shifted. Tables 2.3 and 2.4 summarise the self-evaluations of two students selected at random from the 17 cases and the teacher's assessment of the positive points, errors, plans for improvement and help needed, as well as her feedback on the five aspects of speaking (message, vocabulary, grammar, pronunciation and fluency), affective factors and regulative characteristics of the student. The last column shows the teacher's response to the student's self-evaluation.

Natasja (Table 2.3) made very specific points about her grammatical and pronunciation errors. She admitted to mistakes in all categories and she had made a plan for improvement for all categories too. This contrasts with the teacher's initial assessment (phase 1): she saw more positive points in this student's work and only had one concrete point for improvement, that was to use compensation strategies when she could not come up with a word in order to

improve fluency. After viewing the self-evaluation (phase 3), the teacher did not change this concrete point for improvement but added further feedback.

First of all, she responded on affective factors. The teacher indicated that the student was well-motivated, a perfectionist, and she found confirmation for this view in the student's focus on mistakes and the many plans for improvement in her self-evaluation. The teacher agreed with the student's analysis of her faults with regard to vocabulary, grammar, pronunciation and fluency, but did not agree that the student should spend more time on grammar and learning lists of words. In response to seeing the student's focus on grammar and words in the self-evaluation, the teacher resolved to talk to the student about the importance of keeping the communication flowing rather than thinking about every word. Because of this the teacher also wanted to give feedback at the regulatory level. The teacher agreed with Natasja's suggestions that she should do pronunciation exercises, think about what she wants to say in advance and practise the dialogue a couple of times. In this sense the self-evaluation had prompted the teacher to expand her improvement plan for the student.

Table 2.4 shows that student Nadine was less specific in her evaluation of her positive points and errors. She simply stated whether an aspect of language was good or not good. In contrast, her plan for improvement was specific and detailed. The reason for this was that the self-evaluation form provided scaffolds for writing plans (see Appendix I). The student stated that she needed help from the teacher with grammar rules. The vagueness in her evaluation and the request for help may stem from a lack of the metacognitive and linguistic knowledge she would need to be more specific, as Dlaske & Krekeler (2003) also found in a study in which students found it difficult to identify specific pronunciation problems without help from the teacher. It could be that Nadine still needed a lot of external feedback. Nadine was inconsistent in her self-evaluation. Even though she thought that she was good at getting her message across, she still formulated two plans on communicating the message. She made no plan for pronunciation, even though she had identified this as a weakness, while she did have a plan to improve her fluency, the area that she was satisfied with.

The self-evaluation gave the teacher some insight into these inconsistencies and she was surprised by them. However, it was unclear from the interview whether the teacher intended to do anything about these inconsistencies. The teacher's initial feedback mainly consisted of advice to learn and keep up with words and grammar. New information for the

teacher from the self-evaluation was that the student would like help from her with grammar. The teacher was pleased that the student plans to draw up a vocabulary list herself before the speaking exercise and she included this in her final feedback. The initial feedback on improving her grammar and learning more vocabulary had been elaborated into a more concrete plan tailored to the student's needs as a result of the self-evaluation procedure.

These two cases show that the teacher's feedback shifted, became more specific, more tailored and covered more levels (cf. Figure 1).

Is the self-evaluation procedure also practical in the opinion of the teachers? It emerged from the interviews with the three teachers that using the questions from the self-evaluation to systematically make a mental check on each student did work well. The teachers found that their own feedback was more evenly divided over the different aspects of speaking and the ratio of positive points to errors was also better. Furthermore, the teachers said that the self-evaluations gave them more insight into how the students saw their own performance and this meant that the teachers were better able to guide them. The teachers were enthusiastic therefore about the usefulness of the evaluation procedure.

A disadvantage of the self-evaluation procedure would seem at first sight to be the time that needs to be invested. In comparison with the current classroom practice of the three teachers which is based around exercises from the course programme and in which speaking skills have a relatively minor role, this systematic approach would spend more time on speaking skills. However, improving speaking skills was exactly what the teachers wanted to do, because that was what the students needed. The priority should be the other way around: exercises from the course material could be used if it becomes clear from a student's plan that they are needed. With respect to timesaving, the teachers observed that it was not necessary to listen to a recording of each student. They experienced that walking round the class in combination with the students' self-evaluations was sufficient to give them a general picture. Only in cases of doubt would it be useful for the teacher to listen to the play-back. Nor was it necessary, according to the teachers, to read all of the evaluation forms in detail. A quick scan for things that stand out would be enough. If, for instance, a digital tool could make the students' evaluations and plans available in a handy visual summary for the teachers, the teachers would be able to tailor their feedback and instruction very easily.

2.6 Conclusions and discussion

This chapter reports on two cases which show how foreign language teachers can tailor their feedback and help to individual students' needs when teaching speaking skills. Using a self-evaluation procedure, students evaluated their own speaking performance and wrote a plan for improvement. This small-scale study found that the self-evaluation procedure encouraged students to make concrete plans and gave teachers extra insight that they were able to use to guide individual learners. The interviews with the teachers provided evidence that the self-evaluation procedure was perceived to be a good instrument for improving the quality of their feedback and a practical tool that they could use in the regular classroom. However, this was a trial study that only tested the procedure once and examined *intended* feedback. A follow-up study will be carried out to test the whole self-evaluation procedure on larger scale. From the perspective of the teacher, the practicality of the self-evaluation procedure will be investigated (see chapter 3). From the perspective of the student, a follow-up study will test on a larger scale whether the self-evaluation procedure can be an adaptive resource for students at secondary schools to learn to improve speaking skills in foreign languages in a self-regulating way (see chapter 4). Finally, in chapter 5, the question will be answered how teachers can be supported to implement the developed teaching approach and what their learning routes would be like while implementing the teaching approach in consecutive lesson series.

Table 2.1

Agreements and differences between students' self-evaluations of their speaking performance and the evaluations of their teachers, and shifts in teachers' understanding and feedback in response to the recordings and/or self-evaluations of the 17 students

	Positive points	Type of error	Plan	Feedback
Teacher agrees with student's evaluation	10	8	5	
Teacher partly agrees with student's evaluation	5	6	10	
Teacher disagrees with student's evaluation	2	3	2	n/a.
Teacher notes more and different points from student	8	3	1	
Student notes more and different points from teacher	8	9	10	
Shift in teacher's feedback or understanding in response to recording	7	8	5	2
Shift in teacher's feedback or understanding in response to student's self-evaluation	9	10	14	15
No shift in teacher's feedback in response to student's self-evaluation		n/a		2

Table 2.2
Shifts in focus of teachers' proposed feedback on students' speech performance

Student number:	Focus of teacher's initial proposed feedback from memory (phase 1):	Shift in focus of teacher's feedback after recording (phase 2):	Shift in focus of teacher's feedback after self-evaluation (phase 3):
1	affective		affective + regulative
2	regulative		vocabulary + grammar
3	vocabulary + grammar		feedback on vocabulary made more specific
4	other		other + regulative + affective + message
5	regulative + grammar + vocabulary	affective + grammar + vocabulary	affective + grammar + vocabulary + message
6	affective + regulative		affective + regulative made more specific
7	grammar + vocabulary	grammar	message + fluency
8	fluency		other plan for fluency
9	affective		affective made more specific
10	regulative		regulative made more specific
11	vocabulary		regulative
12	regulative		regulative made more specific and adapted to student's plan
13	regulative + other	fluency	regulative + affective + fluency
14	affective	vocabulary	vocabulary
15	other		vocabulary
16	affective	message + vocabulary + regulative	
17	affective	message + fluency	

Table 2.3

Student Natasja's self-evaluation and her teacher Sophie's response to it

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Message	My classmate understands me well.		I missed one question.		-Think up what I want to say beforehand with my classmate, and note down words and handy sentences - Go over this conversation 100 times with my classmate until I get it right.		The teacher agrees that she is good at getting the message across. The teacher thinks that her plan to think what she wants to say beforehand and practise it a couple of times is a good activity for everyone.
Vocabulary		Fine, broad repertoire	There were a lot of words I didn't know.	Asks for help a lot when she doesn't know a word.	-Extra vocabulary exercises -Write my own lists of words.	Sometimes Natasja cannot find the right words, then you have to help her to think more creatively. She needs compensation strategies.	The teacher thinks it would be better to work on compensation strategies, rather than her plan to do vocabulary exercises and make lists of words.

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Grammar		Very satisfactory	Rubbish, I use the wrong question words to make questions.	Sometimes uses the wrong verb conjugation.	-Do all the grammar exercises -Learn all the grammar rules -Learn <i>phrases utiles</i> .		It is not feasible and it is unnecessary to do or repeat all the grammar exercises. The teacher thinks that she should talk to the student and qualify the importance of grammar. →Feedback on regulation: on aims and focus in speaking skills.
Pronunciation	Reasonable		I forgot contractions like l'hôtel.		Do pronunciation exercises to learn exceptions.		Good plan of Natasja's to do more pronunciation exercises.
Fluency			Awkward silences, because you do not know what you have to say.	She struggles to keep talking, [...] That is not a problem, but because she asks 'What's this?' all the time, the conversation does not go very far.	Repeat conversation at the right tempo with my classmate.		

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Affective		This student really wants to learn and wants to do well. A perfectionist.		Asks for words because she's uncertain.			The teacher thinks that the self-evaluation shows that Natasja does not have a very good self-image. The teacher wants to give feedback on this point.
Regulative							The teacher wants to talk to her about the fact that speech does not have to be perfect as long as you make sure that the communication flows. The purpose of learning speaking skills is to be able to speak to people.

Table 2.4
Student Nadine's self-evaluation and her teacher Sophie's response to it

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Message	Good				-Think what I want to say beforehand and note down words and handy sentences -Practise the conversation a couple of times with my classmate.		She is good at getting her message across actually. The student's plan is great.
Vocabulary		Vocabulary is good, but only when it is similar to English.			-Learn the vocabulary list for the chapter again -Make my own word list.	Learn it and keep it up	I think her plan to note down standard sentences and words that she thinks are important is a good one, and one that will suit her learning style, because she is being active and deciding for herself.

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Grammar			Not good	Sometimes not good, because she does not learn it consistently.	I need help from the teacher, to ask for more explanation -Learn <i>phrases utiles</i> .	Learn it and keep it up	Nadine says she wants more help from me with grammar, more explanation about something, but she does not say what. This means that she recognises that, when it comes to grammar, there is something she wants to learn and can learn. Learning <i>phrases utiles</i> would be useful for her.
Pronunciation			Not good	Her pronunciation is sometimes influenced by English, it does not sound like real French. She is sloppy, because she does not have a proper grasp of it (e.g. when she is unsure if it should be 'bon' or 'bien', it comes out as 'boie').			Strangely enough, Nadine has no plan for pronunciation, while she has said herself that it is not good. I am wondering actually why she has not put anything in that box.

Aspect of speech performance	Positive points		Types of error		Improvement plan & necessary help/feedback		Teacher's response after seeing self-evaluation
	Student	Teacher	Student	Teacher	Student's plan	Teacher's plan	
Fluency	Good				Repeat the conversation with my classmate at the right tempo.		Yes, I did not notice; she speaks fluently and so her mistakes are less obvious. I am surprised that she has a plan for fluency, because that is precisely what she is satisfied with. As far as I am concerned, she does not need exercises for fluency. It is good already.
Affective		She does not clam up. She does enjoy speaking.					
Regulative				Mixed performance because she does not keep up with the learning properly.		She needs to make more effort: especially learning the grammar and vocabulary on a regular basis.	

Chapter 3

Towards a practical approach to teaching speaking skills in modern foreign languages

This chapter is based on: De Vrind, E., Janssen, F.J.J.M., De Jong, N.H., Van Driel, J.H. & Stoutjesdijk, E.T. (2019). Naar een praktische adaptieve aanpak voor spreekvaardigheidsonderwijs in moderne vreemde talen, *Pedagogische Studiën*, 96, 15-39.

Abstract

A new teaching method will only be implemented in the classroom if it is not only of benefit to students but is also practical for teachers. In this contribution we propose an adaptive approach to teaching speaking skills in modern foreign languages, which we call the SpeakTeach method. To make it practical in the classroom, we based it on the Bridging Model for curriculum reform which assumes regular teaching made up of lesson segments. By using design principles shaped around the same lesson segments, teachers can recombine the segments and take advantage of the flexibility of the design principles to adapt the method to their own teaching. Based on questionnaires and visual representations of lesson series, we examined how 13 teachers applied the SpeakTeach method in their classes, what factors they considered and whether they retained the essence of the teaching method. In addition, a teaching impact instrument was used to establish whether the teachers did indeed find the method to be practical. The results show that teachers succeeded in applying SpeakTeach in practice and found the adaptive method to be significantly more desirable than their regular teaching practice. The flexibility of the SpeakTeach method could be an ingredient for curriculum reforms in general.

3.1 Introduction

The success of teaching depends in part on how far it is tailored to individual learning needs (Corno, 2008). Tailoring teaching to students' needs requires teachers to understand the baseline position from which individual students are starting and then to adapt their instruction, activities and feedback to what the students need in order to achieve the desired goals (Sadler, 1998; Van de Pol, Volman & Beishuizen, 2011). The importance of an adaptive approach is recognised in the teaching of modern foreign languages in regular Dutch secondary schools. A frequently heard problem in practice, however, is that teachers find it difficult to provide adaptive feedback, especially when it comes to an ephemeral skill like speaking. Giving adaptive feedback on speaking is found to be particularly difficult (Corda, Koenraad & Visser, 2012). Research has shown that feedback significantly improves speaking skills in language learning (Gass & Mackey, 2012; Lyster, Saito & Sato, 2013), but descriptive studies have found that the amount of feedback given on speaking activities in class is limited and unevenly distributed (Gass & Mackey, 2012). In addition, it has been found that the

amount, nature and focus of the feedback is not always geared to what students want or to their level of understanding (Lyster et al., 2013; Yoshida, 2008).

It is understandable that feedback is not always tailored to individual learning needs. It is not easy for teachers to determine what provision for learning speaking skills (in the form of instruction, feedback and activities) an individual student needs. It is not enough to focus on the speaking performance itself, account must also be taken of what a student understands and notices (Poehner, 2012); of the degree of self-regulation exhibited by the student (Sadler, 1998); and of affective factors that could be hindering the student such as speaking anxiety (Cheng, Horwitz & Schallert, 1999).

This complexity is further exacerbated by the multiple demands placed upon teachers by the context in which they are required to provide adaptive teaching (Janssen, Westbroek, Doyle & Van Driel, 2013; Kennedy, 2010). Secondary school teachers in modern foreign languages report that classes are too big and this along with lack of time impedes the training of speaking skills (after all speaking is not the only component of the curriculum) (Fasoglio, 2015). Because of the transient nature of speech, the shortage of time and large classes of students who all have different learning needs with respect to the speaking components of the curriculum, it is difficult to listen to all of the students, to provide them with feedback and to give them the opportunity to improve. Moreover, complex class ecology ensures that teachers cannot just focus on improving individual students' speaking skills. Many other aims have to be realised at the same time with limited time and resources, such as: making sure that while the teacher is paying attention to one student, the others remain motivated and are engaged in useful work; maintaining order in class; and covering the compulsory material in the curriculum (Janssen, Grossman & Westbroek, 2015). This means that an adaptive method of teaching speaking skills must not only enable teachers to tailor the material to their students' individual needs, but that the approach must above all be practical within the complex class ecology in which teachers work (Janssen et al, 2013; Janssen, Westbroek & Doyle, 2014a). After all, practical obstacles that teachers see and experience could detract from any proposed adaptive approach. It is a well-known problem that important aspects of reforms can be lost during their implementation (Fullan, 2007; Spillane, Reiser & Reimer, 2002).

Janssen et al. developed a methodology to make education reforms practical while retaining the essence of the reform: the *Bridging Model* (Janssen et al., 2013; Janssen et al.,

2015). The *Bridging Model* has been used with a number of reforms, such as developing practical approaches for open-inquiry labs (Janssen et al., 2014a); the concept-context approach (Dam, Janssen, Van Driel, 2013); guided discovery learning (Janssen, Westbroek, Doyle, Van Driel, 2014b); and whole-task-first teaching (Janssen, Hulshof & Van Veen, 2016).

This chapter reports on research using the *Bridging Model* to develop a practical adaptive approach to teaching speaking skills in modern foreign languages: the SpeakTeach method. The key question addressed in this chapter is: How can we make an adaptive approach to teaching speaking skills in modern foreign languages practical for teachers so that they can actively use it in their teaching while retaining the essence of the method? The conclusion also examines whether the findings could be applicable to other components of the curriculum and to other subjects.

3.2 Theoretical framework

3.2.1 Making education reforms practical

Many education reforms have little impact on practice because teachers find them impractical (Janssen et al., 2013). According to Janssen et al. (2013), teachers will only adopt a curriculum reform if they regard it as an improvement on their current teaching practice. The authors base this conclusion on research into boundedly rational or ecologically rational decision-making (Todd & Gigerenzer, 2012). In complex situations where several goals have to be achieved at the same time and time, knowledge and resources are limited, the way people take decisions differs in fact from what is often seen as the norm: generate a large number of alternatives, examine the consequences of each of these alternatives and then choose the best one (Todd & Gigerenzer, 2012). First of all, in complex situations people are often not in pursuit of an unachievable optimum, but striving to improve the current situation (Pollock, 2006). In other words, people are aiming to increase the expected value of their choices. The expected value of an alternative is determined by the product of two factors: (1) considered *desirability* of expected outcome; (2) expected *probability* that the person in the specific context and with the time and resources available will be able to realise the outcome by using the approach (Janssen et al., 2013). Furthermore, people in complex situations do not generate a large number of new alternatives, they adapt existing designs. An existing design is often considered to be made up of components, modules, and new designs come about through recombining and making small adaptations to existing modules (Holland, 2012). It

seems that in complex situations people usually endeavour to improve the existing situation by recombining and adapting the existing building blocks.

Conditions that a reform needs to meet in order to be seen as practical by teachers can be deduced from this research into decision-making (practicality theory, Doyle & Ponder, 1977; Janssen et al., 2013). First, teachers need to know how they can translate criteria for desirable teaching into concrete teacher behaviour and student activities (instrumentality). Second, the new approach has to be achievable within a set period of time and with the resources available (low cost). Third, the approach should not conflict with other aims that teachers are also required to fulfil in their lessons. This means that the aims of the curriculum reform have to fit in with current teaching practices and other goals that need to be met in class (coherence).

The *Bridging Model* was developed based on these insights to make education reforms practical without losing sight of the essence of the reform (Janssen et al., 2013). It is a modular approach in which a reform is described as far as possible in terms of existing segments, or building blocks, of regular practice. Teachers can make gradual changes in the direction of the curriculum reform by means of small recombinations, series of recombinations and/or adaptations of existing building blocks taken from their existing teaching. The practicality of the education reform is increased by recombining and adapting existing lesson segments. This ensures that teachers know how they can fit this approach into their own teaching practice (instrumentality), in a way that does not demand a lot of extra time and resources (low cost) and which fits in with their current teaching practices (coherence).

3.2.2 Design principles for a practical adaptive method for speaking skills in modern foreign languages

This section describes how we make the adaptive method for teaching speaking skills in modern foreign languages practical for teachers in regular secondary schools. First, the regular teaching practice is broken down into building blocks (Janssen et al., 2013; 2015).

Regular teaching in building blocks

Effective foreign language acquisition contains the following components (Driessen, Westhoff, Haenen & Brekelmans, 2008): input; learning activities aimed at content-oriented processing and learning activities aimed at form-oriented processing; output (writing and speaking

activities); and strategic skills. Strategic skills are strategies that are used both with receptive skills (reading and listening) and productive skills (writing and speaking) to compensate for gaps in knowledge of the language.

These components are familiar from language courses. Generally, but certainly not exclusively, a chapter in a foreign language course on a particular theme starts with input (texts to read and listen to), followed by exercises related to the input to train reading and listening skills and exercises for learning vocabulary, grammar and pronunciation (content-oriented processing and form-oriented processing). Next there is often a guided speaking activity aimed at reproduction (see the exercise typology of Neuner, Krüger & Grewer, 1981) in which words, chunks and grammar that were presented in the input and exercises are drilled and mastered through practice. After that further input and exercises elaborating on the theme of the series of lessons are often presented to extend vocabulary and grammar. Finally, there is a free speaking activity in which the language learners use what they have learned to express themselves in their own words in a free communication situation (Neuner et al., 1981). Figure 4 shows this sequence of a standard lesson or series of lessons broken down into building blocks.

Students often work in pairs on speaking activities in regular lessons and the teacher walks around giving feedback to the pairs and then at the end of the activity briefly touches on important points with the whole class before moving on to another lesson component. This standard practice has a number of disadvantages: the feedback is not so much geared to the students' learning needs as based on a few speaking performances that the teacher happens to hear in the class and the students are often given no opportunity to improve their speaking.

REGULAR LESSON(S) SERIES



Figure 4: The position of speaking activities and feedback in a current regular teaching lesson series in building blocks

Design principles for adaptive feedback and improvement activities in the form of building blocks

To make the regular lessons outlined above more adaptive, students and teachers need to have insight into individual students' learning processes so that the lesson can be tailored to their learning needs and it is also desirable that students be given an opportunity to improve their speaking performance. The next step, according to the *Bridging Model*, is to design the principles aimed at achieving these goals to fit into the same lesson segments as are used in the regular lessons. Practical principles are formulated to slot these building blocks into the existing teaching practice in various ways so that the teachers can adapt their own teaching practice. Moreover, we have added an extra lesson component: a self-evaluation by the students. The design principles on which they are based are explained below.

Design principles to tailor lessons to students' needs and teachers' teaching practices

Design principle 1: Add a self-evaluation by the student to a speaking activity

A self-evaluation by the student is added to one or more speaking tasks in a lesson series. Students record a piece of speech, listen back to it, analyse it and write a plan for improvement. Self-evaluation was chosen because it serves both as a diagnostic tool for tailoring teaching (cf. *contingent* teaching, Van de Pol et al., 2011) and as a learning aid for the student (Lappin-Fortin & Rye, 2014; Poehner, 2012).

On the one hand, self-evaluations give teachers information about how and how well the students analyse their speaking performance, what they notice (Schmidt, 1990) and understand (Poehner, 2012) and how they want to improve. It is not necessary, therefore, that a student's assessment is correct. It is the student's subjective internal standard that the teacher is looking for in order to be able to tailor feedback and support. The aim in fact is to gain insight into how individual students assess themselves so that the teacher can align with their current level and degree of self-regulation (Sadler, 1998). This fits in with a sociocultural approach to learning with tailored support in what is known as the "zone of proximal development" (Vygotsky in e.g.: Lantolf & Poehner, 2011; Poehner, 2012).

On the other hand, self-evaluation can stimulate noticing (Lappin-Fortin & Rye, 2014) as well as self-regulation (Poehner, 2012) among students by allowing them to reflect on various aspects of their verbal language skills and the goals they are trying to reach. Moreover,

it can also have a motivational effect, encouraging students to take ownership of their own learning process (Blanche, 1988). It is not easy for students to evaluate themselves (Poehner, 2012). We support this process in four ways. Firstly, by having the students record their speaking performance and listen back to it. Speaking, in particular, demands many cognitive processes within a brief period of time (Levelt, 1989). Analysing a recording of their own speaking performance gives students time to reflect on their own speaking skills and how to improve them (Sadler, 1998). Secondly, we provide the students with aspects on which they can evaluate their speech recording and make suggestions for improvement activities. Thirdly, the students not only produce an evaluation with a plan for improvement, they can also indicate whether they need help from the teacher in carrying out their improvement activities. Finally, students repeat the self-evaluation several times and the teachers give feedback which is not only focused on the speaking performance, but also on improving their self-evaluations and plans for improvement. Depending on the curriculum, time and target group, self-evaluation can be used as often as seems desirable, with guided or free speaking activities, when the teacher decides or when the student decides, during class or as homework, at the same time for everyone in the class or when an individual is ready.

Design principle 2: provide activities for improvement and differentiation

After the students have produced their self-evaluations and plans for improvement, the teacher can use these to offer activities for improvement in follow-up lessons or as homework. These could include: reading texts, listening fragments, model dialogues and film clips as input; exercises for fluency, vocabulary, grammar, pronunciation and sentence structure; chunks to learn by heart; and compensating strategies. Material can be used for this that is already in the curriculum but now it is being used in response to the improvement plan, making clear to the students the alignment (see e.g. Biggs, 1996) between the speaking goals to be attained, the speaking activities, the support exercises and input. The order of the speaking task (with self-evaluation) and the existing input and exercises are then reversed, so that existing input and exercises become improvement activities and are used as tailor-made help. This offers opportunities for differentiation. Based on the improvement plans, the teacher may, for example, group students by improvement activity, by what they asked for help with or by their preferred form of working. The steering in the lessons can also be varied:

type and number of improvement activities, the order of doing things and the types of work may be determined by the teacher or the student.

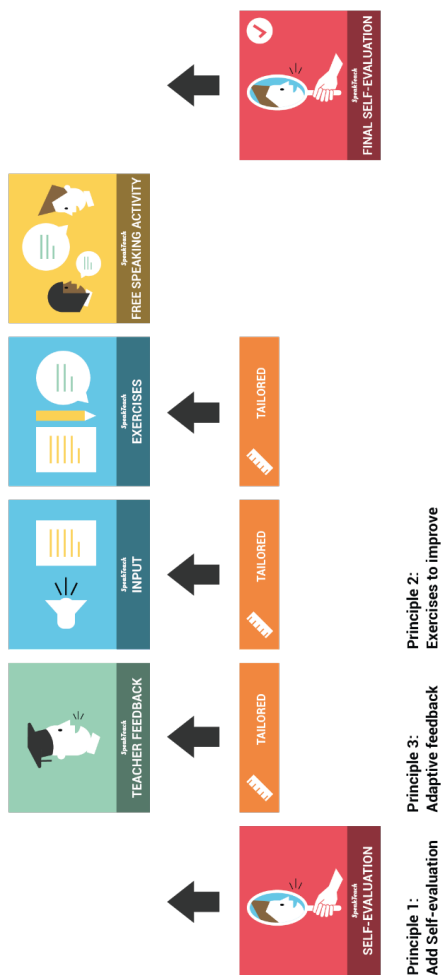
Design principle 3: Provide adaptive feedback

The self-evaluation, the improvement plan and in some cases the recording give teachers information that enables them to tailor their feedback to the learning processes of individual students. On that basis, in addition to feedback on aspects of speaking skills (such as getting the message across, vocabulary, grammar, fluency and pronunciation), teachers can also give feedback on the students' comprehension, capacity for noticing and regulative skills as well as affective factors (motivation effort, fear of speaking, etc.) (see Figure 1, Chapter 2). Adaptive feedback need not mean that feedback is only given individually. Group feedback is also possible, for example if a large group has the same need. Focus, feedback techniques, steering and grouping can be adapted depending on the learning needs that emerge from the self-evaluations, but also on the available time and what is possible.

Alignment

After the students have been given the opportunity to improve their speaking performance (with principles 2 and 3), they do the same speaking activity again or a similar one and evaluate whether their performance has improved (design principle 1 again, see Figure 5), after which they may be given further improvement activities or adaptive feedback. This principle can generate an iterative learning process, with alignment between learning objective, speaking activity and other learning activities. Alignment or the whole of the connected learning activities designed to achieve the speaking objective can be small or large, depending on where the self-evaluations are slotted into the lesson series. The degree of alignment varies depending on the design options chosen. The following design choices show an increasing degree of alignment: 1) the self-evaluation is used for a single random speaking activity in a series of lessons followed by improvement activities; 2) it is used with an easy (guided) speaking activity at the start of a series of lessons and with the final (free) speaking activity at the end of the series; 3) the final speaking activity with the self-evaluation is done right at the beginning of a series of lessons, after which all the activities in the series are planned to improve the final speaking activity.

A regular lesson(s) series



Result: a SpeakTeach lesson(s) series



Figure 5: Transforming a current regular teaching lesson series into a SpeakTeach lesson series

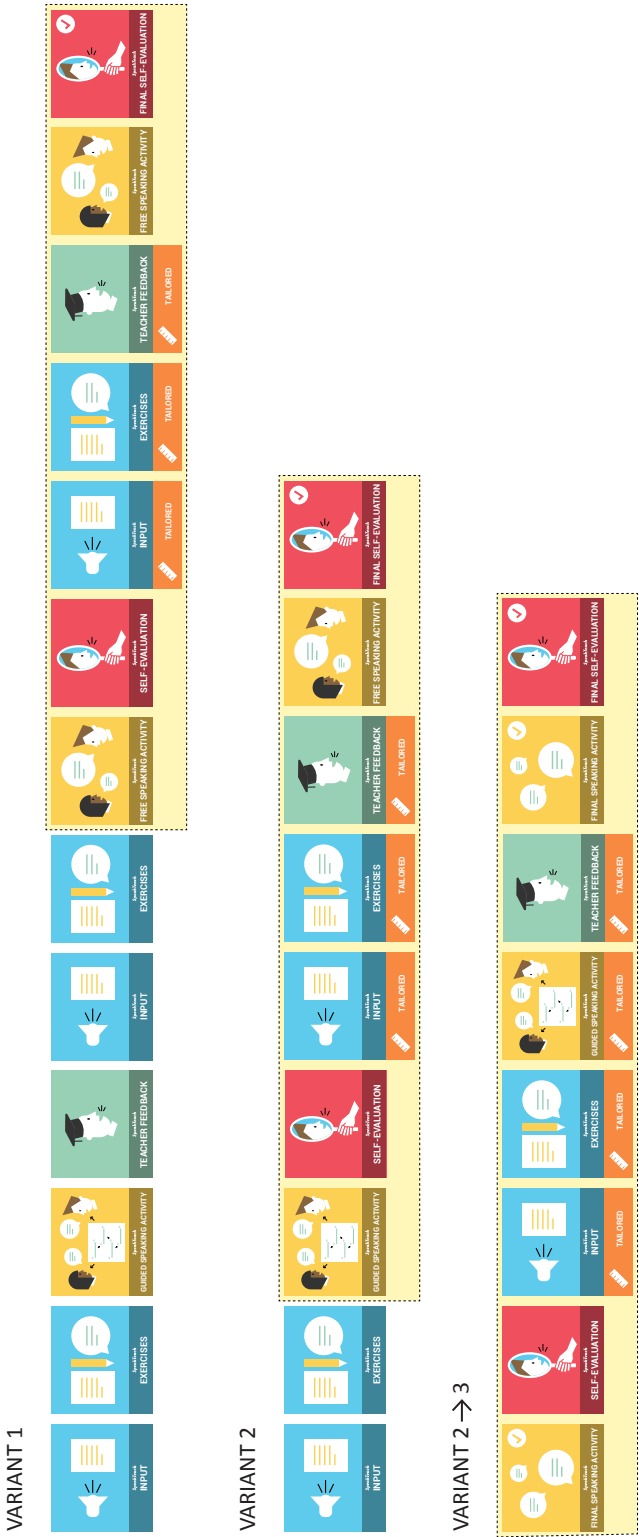


Figure 6: Different sequences of building blocks giving rise to variants of SpeakTeach lesson series

VARIANT 3

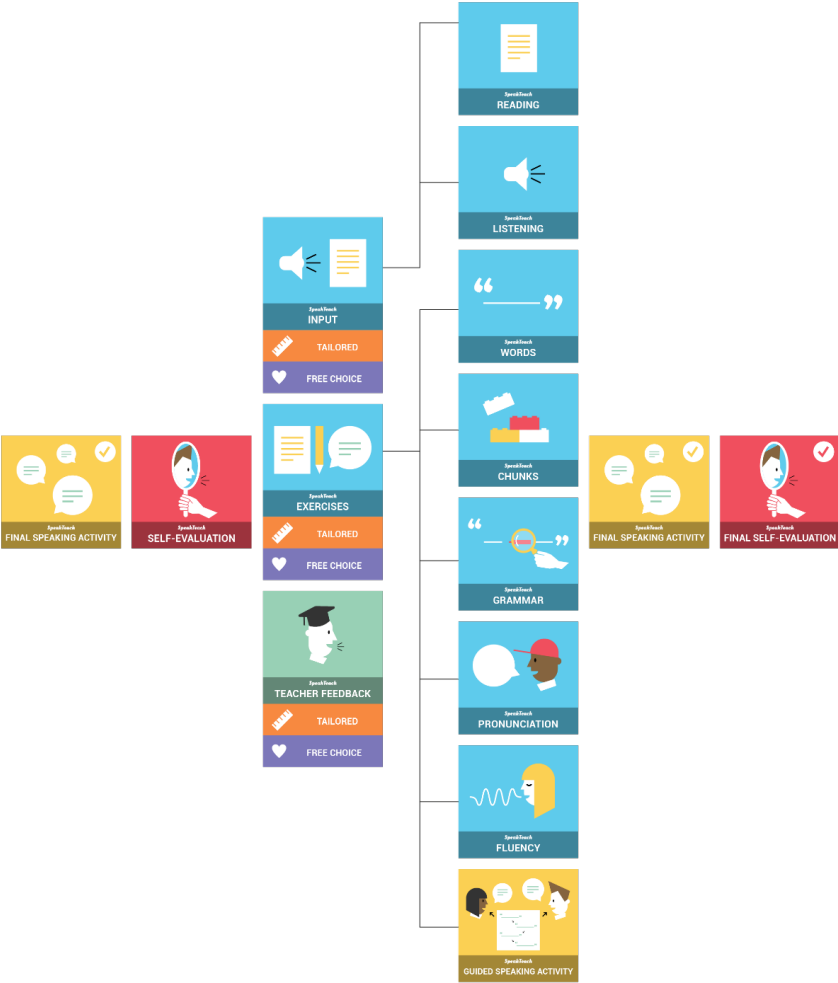


Figure 7: A variant of a SpeakTeach lesson series with maximum alignment, learner autonomy, differentiation of activities and adaptive feedback. The final speaking activity and self-evaluation are placed at the beginning of the lesson series. As a result, there is maximum alignment: all input and activities in the lesson series are employed to improve the final speaking activity.

The new teaching approach proposed here is not a single, fixed and prescribed method but at its core allows for all kinds of variations with the three design principles giving rise to variants with little to a great deal of alignment of speaking skills in the individual lesson or series of lessons, with little to a great deal of differentiation, that may be teacher-led or student-led to varying degrees, and with little to a great deal of adaptive feedback (see Figures 6 and 7).

3.3 Research aim and research questions

The theoretical framework outlined above proposes an adaptive teaching method for speaking skills in modern foreign languages which is based both on theory and knowledge from modern foreign language teaching and on Janssen's *Bridging Model* (Janssen et al., 2013; Janssen et al., 2014a) in an attempt to meet the conditions of practicality (Janssen et al., 2013). The aim of the research was to investigate how far teachers are actually able to apply the method in their teaching. Three research questions were formulated:

A. How are the three design principles of the adaptive teaching method implemented by teachers in their teaching and is the essence of the adaptive teaching method retained?

B. What are the reasons for the choices teachers make about how to embody the three design principles into their teaching practice? Are these choices made with adaptive considerations in line with the curriculum reform?

C. To what extent is the curriculum reform perceived to be practical by teachers and are the problems expressed with regard to teaching speaking skills resolved in their opinion?

3.4 Method

3.4.1 Participants

Experimental group

Thirteen modern foreign language teachers (three German teachers, five English teachers, three French teachers and two Spanish teachers) who were teaching in regular secondary schools participated in this research. They used the *SpeakTeach* teaching method in two year-2 vwo classes, two year-3 vwo classes, one year-4 vwo class, three year-5 vwo classes, two year-6 vwo classes, one year-2 havo class, three year-3 havo classes, one year-4 havo class,

three year-5 havo classes and one year-3 vmbo class⁴. As the teaching method is intended to be adaptive and practical and the research questions ask how (and why) teachers adapt the method and embody it into their teaching and whether in so doing the essence of the approach is retained, it was desirable that they tried the method out in a random class.

The teachers had responded to a mailing from the Department of Teacher Professional Development in Secondary Education at the institute where the author works. This invited them to participate in a professional development project as part of a study to trial a new teaching method for giving adaptive feedback and support with speaking skills in their own classes. Twenty-five teachers were able to take part. Only data provided by teachers who were able to attend all of the meetings were used. That was thirteen teachers. Eleven complete datasets were received in answer to research questions A and B.

Control group

A control group was also recruited through the Department of Teacher Professional Development in Secondary Education in order to determine whether any changes in the perceived practicality were due to the intervention. A mailing was sent out calling on teachers to cooperate in a study on adaptive feedback and support with speaking skills and asking if they and their students would be willing to complete a digital questionnaire about speaking skills in their current practice. The questionnaire had to be filled in twice. Seventeen foreign language teachers (five German teachers, five English teachers, six French teachers and one Spanish teacher) completed both questionnaires (measurements taken before and after the trial) about their teaching practice in year-3 vwo, year-4 vwo, year-5 vwo, year-6 vwo, year-2 havo, year-3 havo, year-4 havo, year-5 havo, and year-3 mavo⁵/vmbo classes.

⁴ The Dutch education system offers differentiated secondary education and the different types of schooling are commonly referred to by acronyms:

vwo is pre-university education, the most academic type;
havo is senior general secondary education; and
vmbo is preparatory secondary vocational education.

⁵ The control group was made up of classes from the same types of secondary education as the experimental group with the addition of one combined mavo/vmbo class. Mavo = junior general secondary education.

3.4.2 Intervention

The 13 teachers in the experimental group participated in a professional development trajectory of five meetings of three hours each spread over three months and implemented the *SpeakTeach* teaching method in their own teaching practice for four months. During the meetings the teachers produced a self-evaluation of their own teaching practice. This self-evaluation consisted of producing a visual representation in building blocks of a representative series of lessons, checking the advantages, disadvantages and difficulties of their regular teaching practice, and setting and prioritising goals. In addition, the three design principles and possible variants of the *SpeakTeach* methodology were discussed. On the basis of the design principles and in line with their own goals, the teachers designed *SpeakTeach* lesson series, which they then implemented in their teaching practice. The intervention was concluded with an evaluation meeting.

3.4.3 Research instruments

Designing lesson series and considerations during this process (research questions A and B)

The teachers in the experimental group completed a questionnaire (see Appendix VI) about each *SpeakTeach* lesson series that they had given. The questionnaire comprised ten closed questions to describe the lesson series: number of speaking activities; type of speaking activities; place of self-evaluation; type of structure; type of input designed to bring about improvement; type of support exercises designed to bring about improvement; type of work forms; who decided which input would be used and which exercises would be done; who decided in what order and with which forms of work; and the focus and organisation of feedback (see Appendix VI, B. *Specification of a SpeakTeach round*). The teachers were also asked about what they considered when opting for a particular form of that aspect; and they were asked whether these aspects were or were not tailored to an individual student based on the student's self-evaluation and/or choice.

In addition, the teachers produced a visual representation with the aid of the building blocks (such as Figures 4 and 5) to show the type and sequence of lesson segments making up their regular lessons and their *SpeakTeach* lesson series (see Appendix VI, B. *Structure of a SpeakTeach round*).

Practicality (research question C)

A teaching impact analysis (Janssen, Westbroek & Doyle, 2014a) was used to establish the practicality of the teachers' regular teaching and the *SpeakTeach* method (see Appendix IV and V (Part A)). To what extent teachers perceive a teaching method to be useful in practice depends on their assessment of how far the method will enable them to achieve important goals (*considered desirability*) and their assessment of how far they will be able to implement the method successfully in class (*expected probability*). Considered desirability and expected probability of the teaching method were both scored on a 7-point Likert scale. In addition, the teachers were asked to name a maximum of five most important advantages, disadvantages and difficulties they experienced with the teaching method.

3.4.4 Procedure

First of all, the teaching impact analysis was used to obtain a baseline measurement on current teaching practices for speaking skills in both the experimental and the control group at the start of the professional development trajectory. The intervention then took place. The visual representations in building blocks of the experimental group's regular teaching practice were collected during the professional development process. Just before the teachers carried out their designed *SpeakTeach* lessons, an interim measurement was made using teaching impact analysis on the practicality of the *SpeakTeach* teaching method. The teachers in the experimental group were then asked to carry out *SpeakTeach* lesson series in their teaching. A total of 30 *SpeakTeach* lesson series were carried out on which the teachers completed the questionnaire and produced visual representations.

A further measurement using teaching impact analysis was taken after about four months in both the experimental and the control group on their regular teaching of speaking skills and, in the case of the teachers in the experimental group, the instrument was also administered on the *SpeakTeach* lessons they had given.

3.4.5 Analysis

Analysis of the designing of lesson series and factors taken into consideration (research questions A and B)

The first part of the analysis aimed to answer the research questions about the application of the three design principles of the *SpeakTeach* teaching method in the teachers' lessons and the reasons behind their decisions. First, the teachers' choices as indicated in the questionnaires and the visual presentations in building blocks that they had produced of the lesson series were recorded. Next these data were combined to determine how far the design principles had been applied and whether the essence of the adaptive teaching method had been retained. Their considerations in making these choices were coded. How this was done is described below.

Extent to which the design principles were applied

All three principles were scored on a scale of 0 (not applied) to 3 (fully applied).

To determine how far design principle 1 had been applied, the researchers looked at the place given to the self-evaluations in the visual presentations of the lesson series. They also checked whether the visual presentations of the lesson series corresponded with the answers to the closed questions in the questionnaire about number of speaking activities, which type of speaking activity self-evaluation was used for (guided, free or final speaking activity) and type of development if any (none, from guided to free, or final speaking activity first). The author and an assessor assigned scores as described in Table 3.1, third column (Cohen's $\kappa = 0.85$).

To determine how far design principle 2 had been applied, a score was given to the answers to the three closed questions in the questionnaire about the steering: who had decided on which improvement activities, in what order and using which types of work. There were three possible answers to all three questions: score 1: the teacher decided and all students did the same improvement activities, in the same order and working format; score 2: the student had some measure of choice; score 3: the student decided. The rounded average of the three scores was taken as the score for design principle 2 (Cohen's $\kappa = 1.0$) (see Table 3.2, third column).

The extent to which design principle 3 had been applied was determined by the data from the questionnaire about tailoring of focus, level of the feedback repertoire and combining the organisation of that feedback with what we had learned from the analysis of design principles 1 and 2 about the scope of the adaptive learning pathway (degree of

alignment and degree of steering). The author and the assessor assigned the scores as described in Table 3.3, third column (Cohen's $\kappa = 0.88$).

Departures from the options conceived in advance with respect to the design of the lesson series were noted as adaptations.

0-scores on the application of the design principles means that the essence of the teaching method was not retained.

Coding considerations

The didactic triangle (see e.g. Bertrand & Houssaye, 1999) was used as a model for coding the teachers' considerations when designing the series of lessons. The didactic triangle describes the interaction during teaching between student-course content, course content-teacher, and teacher-student. All these aspects play a role when teachers are weighing up their didactic options. Which of the three points of the triangle the teachers mentioned in their considerations, we took to be the decisive factor for the choices they had made. Their choices were determined by an emphasis on lesson content or learning aim, for example, "I let students speak, because the active use of the language makes it easier to learn the language"; emphasis on adapting the lessons to individual students, for example, "I walk around the classroom to hear all the students, because I want to have a view on each student to tailor my feedback"; or emphasis on practicality for the teacher, for example, "I don't speak much, because I have too large a group and too little time for speaking skills". These categories of considerations were coded as L (lesson content/learning aim), A (adaptive) and P (practical). The considerations were independently scored by two assessors (the author and an assessor) (Cohen's $\kappa = 0.86$). Where the assessors had coded items differently, they consulted and managed to reach agreement in all cases.

Analysis for research question C: practicality

Quantitative analysis

To answer the research question how far teachers perceived the curriculum reform to be practical, a mixed analysis of variance (ANOVA) was performed to examine whether there were any differences between the experimental group and the control group in the practicality of their regular teaching practices (factor between test subjects) and whether

there were any differences between the baseline measurement and the final measurement at the end of the experiment (factor within test subjects) (the second measurement in-between was ignored here). The scores on the 7-point Likert scale for both groups and both measurements were compared for the two components of the concept of *practicality*, i.e. the component *desirability* of the regular teaching and the component *probability* of being able to successfully use their regular teaching methods in class.

Repeated ANOVA measures examined whether there were differences in the experimental group in the scores for practicality of the *SpeakTeach* teaching method between the three measurements (the baseline measurement, the interim measurement just before the implementation and the final measurement after implementation of *SpeakTeach*, see procedure) and these scores were compared with the practicality scores for regular teaching (baseline and final measurements). Just as was done with the mixed ANOVA analysis, separate computations were performed for the components desirability of the teaching method and probability of being able to successfully carry out the *SpeakTeach* or the regular teaching method. Where differences were found, paired t-tests were performed and corrected using Bonferroni to establish between which measurements the differences occurred.

Qualitative analysis

To describe the advantages, disadvantages and difficulties that the teachers mentioned in relation to their regular teaching and to establish whether these were different when they used the *SpeakTeach* method, we used the didactic triangle as the model again (see above). We examined whether the advantages, disadvantages and difficulties that the teachers mentioned were seen as being related to the lesson content/learning aim, the students, or were of a practical nature, and we coded them L (lesson content/learning aim), A (adaptive) and P (practical) respectively. The advantages, disadvantages and difficulties mentioned by the teachers were independently scored by two assessors (the author and an assessor) (Cohen's $\kappa = 0.82$). Where the assessors had coded items differently, they consulted and managed to reach agreement in all cases.

3.5 Results

3.5.1 Results for research questions A and B: essence and design of lesson series and factors considered

The *SpeakTeach* teaching method was used in 30 lesson series comprising two to five speaking activities.

Table 3.1

Extent to which design principle 1 was applied in SpeakTeach lesson series (n=30) with factors taken into consideration in the choices made

SpeakTeach design principle	Design aspects in <i>SpeakTeach</i> lessons		Number of lesson series (n=30)	Perspective of considerations underlying choices		
				L	A	P*
1. Add a self-evaluation by the student to a speaking activity	Analysis of extent to which principle 1 was applied	(score 0) No self-evaluation added.	0	0	0	0
		(score 1) Self-evaluation added to a random speaking activity in the lesson series, followed by improvement activities and a final self-evaluation of the same speaking activity. This ensured some <i>alignment</i> of the speaking activity with input/exercises for improvement.	3	8	5	2
		(score 2) Self-evaluation added to the first speaking activity in the lesson series, followed by activities for improvement and a self-evaluation of the final speaking activity at the end of the lesson series. This created <i>alignment</i> of speaking activities and input/exercises for improvement which formed a unit in the lesson series.	9	7	8	2
		(score 3) Final speaking activity or a similar free speaking activity with self-evaluation used right at the beginning. This created full <i>alignment</i> in the lesson series, as the focus was on the final activity from the very start and all learning activities were building up it. The final speaking activity was repeated at the end of the lesson series with a final self-evaluation.	18	5	12	2
	Adaptations	- Final speaking activity in the lesson series was known from the beginning and students wrote a final dialogue but the self-evaluation was done on the first speaking activity.	1	0	1	0
		- End product and criteria were discussed at the beginning of the lesson. Final speaking activity done at the beginning but not the self-evaluation.	3	3	3	0
		- Self-evaluation coupled with several types of speaking activity in a lesson or lesson series.	6	0	6	0
		- Students chose for themselves on which speaking activity they did the self-evaluation.	2	0	2	0

* The abbreviations L, A, P stand for lesson content-based (L), adaptive (A) and practical considerations (P) respectively.

Choices made with respect to principle 1 (adding self-evaluation)

Table 3.1 presents a summary of the extent to which design principle 1 was applied.

The first finding to be noted is that design principle 1 was implemented in all of the lesson series; no lesson series were found to which self-evaluation had not been added. If we examine how far the design principle was applied in shaping the lessons, what stands out is that in more than half of the lesson series the option to start with the final speaking activity and the self-evaluation right at the beginning of the series was chosen, resulting in full alignment because the lessons were centred around the final speaking activity and all of the learning activities were building up to that. The main reasons given for this maximum application of design principle 1 were adaptive reasons. In particular, both teacher and students gaining insight into the learning process was mentioned, which is entirely in line with the aim of the curriculum reform. In three lesson series an adaptation of this maximum application was found: the final speaking activity with criteria was discussed at the start of the lesson series and based on that discussion the students decided which improvement activities they needed for themselves but the self-evaluation was not done at that point but only at the end of the series of lessons. The reason given for this was that by discussing the final activity, the students knew what was expected of them (insight into final goal and learning process) and could do preparatory exercises first before they did the real speaking activity (attaining the learning goal).

Those teachers who chose to build up from a guided to a free speaking activity often mentioned that this was in order to achieve the learning goals by progressing from an easy to a more difficult level. In one lesson series we found an adaptation of this approach: the final activity was done at the beginning but was done as a writing activity rather than a speaking activity. The self-evaluation was then done in the same lesson with the first speaking activity and the students prepared for the final speaking activity by further elaborating the first speaking activity and supplementing it with written work throughout the series of lessons. This interpretation is an adaptation of the build-up from an easy to a free final speaking activity which allows the material to be adapted to the individual student's level, while at the same time the student gains an understanding of the ultimate aim and insight into his or her learning process from the beginning, thereby facilitating alignment.

The simplest interpretation of design principle 1, adding the self-evaluation to a random speaking activity at some point in the lesson series, was only found in three lesson

series. Reasons given for this were: “wanting to proceed with caution when beginning to use *SpeakTeach*,” teaching a difficult subject with a lot of new vocabulary” and “it was the only speaking activity available”.

In six lesson series, self-evaluations were used with all or several types of speaking activity in class to increase insight into the learning process and, in two lesson series, students were allowed to choose for themselves which speaking activity to do the self-evaluation on to help the teachers to tailor their teaching to meet the students’ needs. These changes made the teaching method even more adaptive.

Table 3.2
Extent to which design principle 2 was applied in SpeakTeach lesson series (n=30) with factors taken into consideration in the choices made

<i>SpeakTeach</i> design principle	Design aspects in <i>SpeakTeach</i> lessons		Number of lesson series (n=30)	Perspective of considerations underlying choices		
				L	A	P
2. Provide input and exercises for improvement and differentiation	Analysis of extent to which principle 2 was applied	(score 0) No input or exercises for improvement.	0	0	0	0
		(score 1) Teacher-led; type of improvement activities, order and types of work decided by the teacher and the same for all students.	3	1	1	1
		(score 2) Shared management: partly chosen by students so improvement activities more tailored.	10	2	6	4
	Not / Minimal  Maximal	(score 3) Student-led: input, exercises, speaking activities for improvement fully tailored, all chosen by students.	17	3	19	2
	Adaptations	-	0	0	0	0

Choices made with respect to principle 2 (offering improvement activities and differentiation)

The results on the application of design principle 2 are summarised in Table 3.2. This shows that design principle 2 was implemented in all of the lesson series: no lesson series were found in which there were no improvement activities after the self-evaluation.

Steering of improvement activities refers to who decides what input will be used and which exercises for improvement are to be done, the order of doing things and the types of work to be used. What stands out is that in the *SpeakTeach* lessons, the students mainly decided this and so the majority of the lessons were student-led (17/30), followed by shared steering (10/30), and that relatively few teacher-led lessons were reported (3/30). It is striking in this regard that it was mainly adaptive considerations that were mentioned with all forms

of lesson management, even teacher-led (1/3). The teacher who taught the teacher-led lesson explained that it was the students who had asked for more clarity and guidance. It seems, therefore, that teacher-led lessons can also be adaptive!

A few of the teachers working with shared steering observed that adapting lessons to meet students’ needs can mean making choices which are different from the preferences expressed by the students in the self-evaluations, if the teacher notices that they need more guidance.

When choosing how to manage the lessons, in half of the *SpeakTeach* lessons teachers used the self-evaluations to find out how the students wanted to work on their plans for improvement. In some cases, students were given autonomy over this and they used the self-evaluations themselves to decide how they wanted to work on improving their skills. The aim of this was to make the students more independent and to foster their management of their own learning process.

Table 3.3
Extent to which design principle 3 was applied in *SpeakTeach* lesson series (n=29) with factors taken into consideration in the choices made

SpeakTeach design principle	Design aspects in <i>SpeakTeach</i> lessons		Number of lesson series (n=29)	Perspective of considerations underlying choices		
				L	A	P
3. Provide adaptive feedback	Analysis of extent to which principle 3 was applied Not / Minimal  Maximal	(score 0) No feedback on student’s recordings, self-evaluation, plan for improvement activities and/or requests for help.	1	6	39	16
		(score 1) Some adaptive feedback on student’s recordings, self-evaluation, plan for improvement activities and/or requests for help.	4			
		(score 2) More opportunities for giving adaptive feedback as <i>alignment</i> created between speaking activities and input/exercises for improvement which together formed a single block in the lesson series in response to the self-evaluation and fully adaptive feedback on the part chosen by the student him/herself.	6			
		(score 3) All feedback adaptive, tailored to learning pathway chosen based on student’s self-evaluation.	18			
	Adaptations	Peer feedback	1			

Choices made with respect to principle 3 (providing adaptive feedback)

To determine the degree of adaptive feedback in the lesson series, we looked at the tailoring of focus, the level of the feedback repertoire and the organisation of that feedback, as well as the scope of the adaptive learning pathway that emerged from the analysis of design principles 1 and 2. A summary table was also produced for design principle 3 (Table 3.3).

For one series of lessons, no data on feedback were filled in (so $n=29$ in this table instead of 30). In no fewer than 18 of the 29 lesson series, the feedback could be called fully adaptive (score 3). One of the 29 *SpeakTeach* series of lessons was given a 0-code, meaning that it failed to retain the essence of the *SpeakTeach* method: no adaptive feedback was given. The feedback aiming to achieve the learning goals in this series of lessons was given in the traditional way to the whole class. While the final speaking activity was used at the beginning of the lesson series so that students gained some insight into their own speaking competences and connections with the learning activities were then made clear, after that the lessons were entirely teacher-led. The teacher said that was because of an experience with an earlier *SpeakTeach* lesson that had been student-led and had become chaotic. The teacher wanted to keep order now.

One adaptation of design principle 3 was found: students gave each other feedback based on their speaking performances, self-evaluations and plans for improvement. The teacher had opted for this form of peer feedback to make the students less teacher-dependent, so that they would take more responsibility for their own learning. This was a student-led adaptation of the teaching method.

3.5.2 Results of research question C: Practicality of regular teaching and the *SpeakTeach* method

Table 3.4

Means (and standard deviations) of the desirability and probability of successful execution of the regular teaching practice and the SpeakTeach method

		Desirability			Probability of successful execution		
		Pre-measurement	Intermediate measurement	Post-measurement	Pre-measurement	Intermediate measurement	Post-measurement
Experimental group (n=13)	Regular teaching practice	4.54 (1.05)		4.15 (.99)	5.31 (.95)		4.77 (1.09)
	<i>SpeakTeach</i> method	6.08 (.64)	6.31 (.48)	6.31 (.63)	5.38 (1.04)	5.31 (1.03)	5.00 (1.08)
Control group (n=17)	Regular teaching practice	5.12 (1.73)		5.29 (1.45)	4.94 (.97)		4.65 (1.41)

Practicality

Table 3.4 shows the five measurements of desirability and the five measurements of probability for the experimental group and the two measurements for each in the control group. Differences were found in the experimental group with respect to *desirability* between the five different measurements taken on regular teaching practice and teaching using the *SpeakTeach* method ($F(4, 48) = 28.45, p < .001, \eta_p^2 = .703$) (see Table 3.4). The three measurements on *SpeakTeach* were all significantly higher than the two measurements on regular teaching (p 's $< .003$) for *desirability*. There was no difference between the baseline measurement and the final measurement for *desirability* on the regular method of teaching ($p = 1.00$) or between the three measurements on the *SpeakTeach* method (p 's $= 1.00$). There were no significant differences between the experimental and the control group with respect to their opinions about regular teaching ($F(1, 28) = 3.33, p = .079$), nor was there an effect of time of measurement ($F(1, 28) = .30, p = .587$). The interaction was also not significant ($F(1, 28) = 2.20, p = .149$).

No differences were found in the experimental group with respect to probability of being able to successfully carry out the regular teaching practice or the *SpeakTeach* method ($F(4, 48) = 1.019, p = .407$). No difference was found between the opinions of the teachers in the experimental and the control group about their regular teaching ($F(1, 28) = .436, p = .515$). The groups were therefore comparable in their assessment of the practicability of regular

teaching. However, time of measurement did have an effect on their opinions on this ($F(1, 28) = 4.65, p = .040, \eta^2 = .142$). The interaction was not found to be significant ($F(1, 28) = .400, p = .532$). For both groups, the probability of being able to successfully carry out the regular teaching was rated significantly lower at the final measurement (average = 4.70, SD 1.26) than at the initial baseline measurement (average = 5.10, SD .96). There was no significant decrease for the SpeakTeach method ($F(4, 48) = 1.02, p = .407$).

Results on advantages and disadvantages of regular teaching and teaching with the SpeakTeach method

The researchers looked at whether the most important advantages, disadvantages and difficulties that the teachers reported concerned the lesson materials and learning goals, whether they were adaptive or practical in nature and whether there were differences in this regard between regular teaching and teaching using *SpeakTeach*.

Advantages of regular teaching given by teachers mainly concerned subject matter being taught and the learning goals to be achieved (21 of the 33 advantages reported). The teachers were positive, for example, about students learning to use the language actively.

The disadvantages and difficulties associated with regular teaching that the teachers mentioned were mainly adaptive and practical in nature (10 and 13 of the 29 disadvantages reported respectively). Teachers stated, for example, that they would like to give more feedback, that it was difficult to tailor feedback to individual students, and difficult to gain insight into students' learning processes and progress. The main practical disadvantages mentioned were not enough time to practise speaking skills, difficulty organising feedback, class sizes, lack of resources, and clashes with other aims such as keeping order in class and keeping everyone actively working.

In contrast with their reports on regular teaching, many advantages from an adaptive perspective were mentioned for *SpeakTeach* (26/35). An advantage particularly mentioned was the insight that they gained into their students' learning, and also the insight, autonomy and involvement of the students in their own learning process. Being able to give adapted and targeted feedback was also mentioned as an advantage.

Disadvantages and difficulties associated with the *SpeakTeach* method of teaching were of a practical nature (14/20) and concerned the technology: properly functioning Wi-Fi and mobile phones are needed for the recordings and self-evaluations. Three teachers also

reported that they had a tendency to check all the self-evaluations and recordings. It was striking that, in contrast with regular teaching, practical problems such as class size, type of organisation and clashes with the aims of maintaining order and keeping everyone actively occupied were not mentioned.

3.6 Conclusions and discussion

Tailoring teaching to students' learning needs is highly desirable but seems to be very difficult for teachers to do in their regular classes (Hoffman & Duffy, 2016). This is also true for teaching speaking skills in modern foreign languages. The aim of our research was to develop and test a practical adaptive approach to teaching speaking skills. We developed the *SpeakTeach* approach using the *Bridging Model*, a theory-driven methodology designed to make education reforms practical.

The results allow us to cautiously conclude that the approach proved useful. First, because in line with its aims, an important finding of our study was that the essence of the adaptive teaching method was retained during implementation in almost all cases (28 out of 29 *SpeakTeach* lesson series) and that adaptive considerations played a role in this. Second, teachers found the method to be practical. The statistical analysis show that the teachers found *SpeakTeach* significantly more desirable than their regular teaching practice. Moreover, the adaptive approach is not considered more difficult to implement than regular teaching practice.

These findings are unusual because teachers generally find it difficult to tailor lessons to their students' learning needs in speaking skills (Corda et al., 2012) and, because of perceived practical obstacles, often fail to adopt reforms or alter them so much that their essence is lost (Janssen et al., 2013). The teachers in this study indicated that in their regular teaching practice they found it difficult to gain insight into the students' learning processes and to tailor teaching to suit individual students. They mentioned class size, type of organisation, keeping order and keeping students actively engaged as practical disadvantages. These disadvantages were not mentioned for the *SpeakTeach* method and insight into the learning process and tailoring were actually mentioned as advantages.

By getting the students to do the speaking task and the self-evaluation before existing input and exercises, space was created for coordination with learning needs. In addition, we think that we managed to develop an adaptive approach that teachers found useful in

practice, because it was based on the *Bridging Model* which enables teachers to recombine existing building blocks from their regular teaching practice. Moreover, the design principles of the teaching method allowed the teachers to tailor the method to suit their own teaching style and practices; there was no prescribed *SpeakTeach* method but opportunities to use the core of the approach in a variety of ways. The results show that the teachers made full use of those opportunities for variation in order to tailor their teaching to their students. They used the three design principles to produce many different variants of *SpeakTeach* lessons. It is striking in this regard that many chose to implement the design principles to the maximum mainly with adaptive considerations in mind. This resulted in many series of lessons that were structured with the final speaking activity and the self-evaluation at the beginning (almost two thirds), leading to maximum alignment of speaking and learning activities in order to achieve the final speaking aim. It is also striking that many teachers opted for student-led lessons (almost two thirds) and fully adaptive feedback was given in more than half of the lesson series.

New adaptations of the teaching approach were found which retained the essence of *SpeakTeach* and which were in line with its aims. The self-evaluation, for example, was done with each speaking activity in the lesson series in some cases in order to provide more insight into the learning process; in another series the teacher allowed the students to decide for themselves on which speaking activity they would do the self-evaluation, judging that that they were ready for that degree of self-regulation; and in yet another series peer feedback was used to increase student autonomy.

A new ingredient was added to the *Bridging Model* in this research to facilitate even more adaptation to meet students' needs and adaptation of existing teaching practices: this was the addition of student self-evaluation with a plan for improvement. A self-evaluation is not only valuable for the student's learning process (Lappin-Fortin et al., 2014; Poehner, 2012), it can also be used as a diagnostic tool to help teachers tailor their teaching (cf. contingent teaching, Van de Pol et al, 2011). Teachers do adapt feedback and learning activities in their regular teaching, but they do this based on what they hear and see from the students. A large part of the lesson is not tailored because the teacher cannot be everywhere at once and has to respond on the spot. Self-evaluations can give teachers deeper insight into the learning processes of all of their students as they continue to study and learn, giving teachers the

opportunity to offer adaptive feedback and support. Furthermore, the students are able to work with more focus using the feedback and learning activities they have been given on improving the same final or other speaking activity that will be evaluated again. This approach takes existing learning activities from regular teaching to create a coherent body of learning activities around a speaking goal thereby increasing *alignment* in the lessons. In short, the additional *self-evaluation* component in the *SpeakTeach* approach has three functions: to improve capacity to learn; to facilitate tailored teaching; and a practical, organisational function, which is that the learning process proceeds while more time is created for adaptive teaching.

Limitations of this research were the duration and scale of its implementation. A follow-up study with more participants over a longer period of time is to be recommended to enable the results to be generalised. Moreover, this study was based on self-reporting by teachers. This was because we were specifically interested in teachers' *perception* of the practicality of the approach and what factors they considered when applying the design principles in their lessons. A further study could also observe teachers' *behaviour* to find out how they implemented the adaptive teaching method in their lessons.

This research looked at implementation from the teacher's perspective, the student's perspective was not included. In a follow-up study the emphasis will be on the students: to what extent do they experience this approach as meeting their specific learning needs? (See chapter 4).

Despite the limitations of this study, we feel able to cautiously recommend this teaching approach for other subjects. First of all, its flexibility and the way the teaching method is made practical by means of the steps of the *Bridging Model* could be adopted for other curriculum reforms. In addition, the way it ensures that feedback and learning activities can be tailored to meet students' needs, namely through an iterative learning process of self-evaluations followed by feedback and tailored improvement activities, could also be applied to different subjects as well as to other components of the modern foreign languages curriculum such as listening skills.

Chapter 4

A self-evaluation procedure for secondary school students to improve self-regulated learning of their speaking skills in foreign languages

Abstract

To become autonomous language learners, students must learn to self-regulate their learning. This chapter first explains what is needed to support this self-regulation learning process for speaking skills. From this explanation follow design principles for the teaching approach on the basis of which a concrete self-evaluation procedure for students is proposed. Subsequently, a quasi-experimental study investigated to what extent changes occurred in the students' self-regulation of their own speaking skills and to what extent the students perceived the self-evaluation procedure as motivating and the received feedback and support as adaptive to their needs. From the results can be concluded that during the self-evaluation procedure students' perception of their learning needs did indeed change. Shifts in diagnoses of their own speaking performances and foci of plans for improvement were found. It seemed that students expanded the focus of their diagnoses and plans. It was also found that the perceived need for teachers' assistance decreased and the preference for independence increased. Furthermore, the study showed that students perceived the self-evaluation procedure as motivating. Students in the experimental group found activities to be as tailored to their needs as the control group but students in the experimental group found feedback in lessons in speaking skills in general less tailored to their needs than the control group. However, the students in the experimental group found activities adaptive when they were asked, not about lessons in speaking skills in general, but about a specific cycle of a self-evaluation procedure.

4.1 Introduction

An important goal in foreign language education is to guide students to become autonomous learners (Holec, 1981; Lee, 1998; Little, Dam & Legenhausen, 2017). It is important that students learn to self-regulate their own foreign language skills, "[...] so that they can continue their language development and take increasing responsibility for their learning" (Lee, 1998: 288). This means that students must learn to independently evaluate their current speaking performance, compare this to a desired situation, set goals and draw up a plan to reduce the gap, learn to execute this plan and follow it up with an evaluation, after which the cycle can be repeated (Little et al., 2017). This self-regulated learning process should be supported adaptively, meaning that students receive the help they need (no more and no less) and that

support is phased out gradually until they are able to fulfil all the different parts of the process independently (e.g. Sadler, 1998).

Providing adaptive support on self-regulated learning of speaking skills appears to be difficult, however, in regular teaching in secondary schools. In the complex context of a class situation with a large number of students who have different learning needs, it is challenging for a teacher to monitor each individual student's learning process simultaneously (Keijzer, Perry, Rose & Verheggen, 2011) and to give each student tailored support in the form of feedback and tasks (Chapter 3). Especially for speaking, because of its transient nature, the opportunity for teachers to give feedback passes quickly. It is not surprising, therefore, that descriptive L2- research has shown that teachers do not usually give much feedback, the feedback is not divided equally among the students (Gass & Mackey, 2012) and is not always effective (Lyster, Saito & Sato 2013). Moreover, the quantity and type of feedback does not match students' preferences (Yoshida, 2008), and providing feedback does not always lead to uptake (= learners' responses or self-repair (Gass et al., 2012; Lyster & Ranta, 1997). On the one hand, this is because teachers do not always use feedback techniques that encourage self-correction (Gass et al., 2012; Lyster & Ranta, 1997; Lyster & Sato, 2010). Ideally, feedback not only addresses correctness of the utterances – which can make learners dependent on external feedback (Poehner, 2012; Sadler, 1989) – but it should also invite them to self-correct or it should provide information about how to correct commensurate with the students' ability (Aljaafreh & Lantolf, 1994; Pryor & Crossouard, 2008; Sadler, 1998). On the other hand, the opportunity to improve speaking performance is often lacking. In secondary education in the Netherlands and elsewhere in the world, speaking tasks are often offered only once in a lesson series without additional instruction or practice and with limited time for reflection after interaction (Goh & Burns, 2012; Goh, 2017; Chapter 2 of Van Batenburg, 2018). As a result, in the regular classroom, learners often do not have the chance to practise a speaking activity again and to improve their initial attempt which is a missed opportunity, because reflection, additional input and task repetition can help learners to advance (Bygate, 2001; Goh et al., 2012; Goh, 2017; Van Batenburg, 2018).

In order to improve secondary school students' self-regulation of their speaking skills, we developed a procedure for this study, the self-evaluation procedure, to facilitate diagnosis of current speaking performance by the students themselves, development of a plan to improve it and adaptive support for the execution of the plan. The self-evaluation procedure

was used in several cycles by students to create an iterative learning process of monitoring and improving their own speaking skills. In this chapter we focus on the question of whether our self-evaluation procedure could be an adaptive resource for secondary school students to learn to improve their speaking skills in foreign languages through self-regulation. First, we examine in further detail what was needed to promote self-regulation in speaking skills. We needed to know this in order to derive design principles for the teaching practice. Then we propose a concrete self-evaluation procedure for speaking skills on the basis of these design principles and investigate the extent to which changes occurred in the process of student self-regulation in improving their speaking skills after four iterations of the self-evaluation procedure. We also examine to what extent secondary school students perceived the self-evaluation procedure as motivating and the support they received as adaptive. With this study we hope to contribute to the goal of guiding students to become autonomous learners in learning to speak foreign languages and to provide concrete design principles to support this learning process adaptively.

4.2 Theoretical framework

4.2.1 Self-regulation as a feedback loop

Improving speaking skills can be seen as a goal-directed process that runs through a feedback loop. The core construct of this feedback loop is the reduction of the discrepancy between the learner's perceived current speaking performance and some desired level of performance or goal. This sets off an iterative process. Carver and Scheier (1998) proposed a general feedback loop as a model of self-regulation which we applied to self-regulation in speaking skills (Figure 8, based on Lord, Diefendorff, Schmidt & Hall, 2010: 546; Carver & Scheier, 1998; and Powers, 1973). This model comprises the components of the process of self-regulation and their interrelationships. An autonomous learner goes through all components independently, "[...] taking responsibility for the objectives of learning, self-monitoring, self-assessing, and taking an active role in learning" (Lee, 1998).

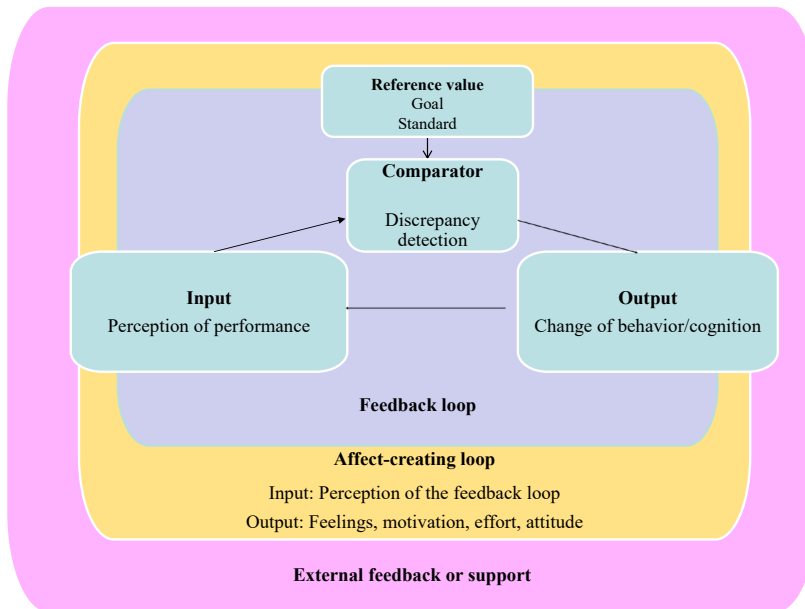


Figure 8: The discrepancy reducing feedback loop or model of self-regulation expanded with an affect-creating loop and external feedback or support

We will illustrate the elements of the feedback loop for speaking skills:

The feedback loop starts with the perception of the learner's own current speaking performance (input). Individual learners compare this perceived speaking performance to a goal or standard that they desire or think is desirable (reference value). Subsequently they try to reduce the discrepancies between the input and the reference value (comparator) by setting new goals and setting plans for improvement in order to improve their speaking performance (output) which is again compared to the desired level of performance (new cycle of input, comparator, output etc.).

Simultaneously with this behaviour-guiding feedback loop, Carver and Scheier (2000: 1717; 2012: 32) suggest that feelings arise via another feedback loop which operates automatically and parallel to the behaviour-guiding loop. This is the affect-creating loop. This second loop "[...] is checking on how well [the first process (the feedback loop, Figure 8 in violet)] is doing at reducing its discrepancies over time" (Carver & Scheier, 2000: 1717). Positive feelings arise when it seems that the goal will be reached in the foreseeable future and negative feelings when the difference between the current and desired situation seems too large to be bridged in time. Carver and Scheier (2000: 1717) explain that "[...] the

perceptual input for the affect-creating loop [(Figure 8 in orange)] is a representation of the rate of discrepancy reduction in the action system over time” and that the output of this affect loop is negative or positive feelings which may in turn influence each element of the behavioural feedback loop.

This process of self-regulation is complex for students. It requires understanding and noticing of different aspects of their own speaking performance (the existing situation), the capability to set goals and plans for improvement and the motivation to carry out these plans. Depending on the learners’ capacities, the feedback loop or self-regulation loop can be followed autonomously or with external feedback or support (Figure 8 in pink). External feedback or support can be, for instance, teacher feedback, peer feedback, parents, a course book or another external source (Hattie & Timperley, 2007: 81). The feedback or support may be focused on each element of the feedback loop, thus on the learners’ understanding of their own speaking performance (input), on the desired goal or standard (reference value), on the plan for improvement or the improved speaking performance (output) and on the feelings, motivation, effort or attitude which influence the process of self-regulation (affect-creating loop).

The ultimate purpose of this external feedback and support should be to create autonomous learners who are able to self-regulate their own learning process and effectively and independently improve their speaking performance themselves. The process should therefore be an iterative process which leads to increasingly independent and, ultimately, autonomous learners (Little et al., 2017).

4.2.2 Possible needs for external feedback and support to promote self-regulation in speaking skills

Little stated (2007: 26) that “learner autonomy is the product of an interactive process in which the teacher gradually enlarges the scope of her learners’ autonomy by gradually allowing them more control of the process and content of their learning.” To enhance such an interactive process, insight into what is required for self-regulation is necessary. In this section we will examine what is required for each component of self-regulation in speaking skills (Figure 8) and what students may *need* in the form of support if they cannot yet independently fulfil the requirements of the relevant component of self-regulation in speaking skills.

Input: enhancing noticing and understanding

In the feedback loop as shown in Figure 1, learners perceive their own speaking performance. For this perception to be relevant in self-regulation, the learners must *notice* different aspects of their speaking performance and understand how their prior knowledge, instruction and received feedback relates to different aspects of their speaking performance (cf. Schmidt, 1990, noticing hypothesis).

In common classroom practices, however, because of the volatility of speech, there is often no time for reflection on the oral production. Speaking skills especially, more than other language skills, demand many cognitive processes in a short time: conceptualizing, grammatical and lexical encoding, articulating as well as monitoring (Levett, 1989). For successful speaking, different types of knowledge (knowledge of the topic, lexicalized items and phrases, morphosyntax, pronunciation, pragmatic knowledge) are needed, including the skill to access the corresponding types of knowledge quickly and efficiently. Another skill that is needed is how to use communication strategies if knowledge is lacking (De Jong, 2020; Goh, 2017). Since attention is limited, learners cannot focus on every aspect of their performance while speaking but introducing immediate feedback or self-reflection would interrupt the flow of communication. Although delaying feedback and reflection until after speaking avoids cognitive overload, due to the volatility of speech it would be too difficult for learners to recall all the details of their performance (e.g. about timing of feedback Lyster, Saito, Sato, 2013; Ellis, 2009). Analysing a recording of one's own speaking performance can be a practical and instructive solution therefore (e.g. Hedge, 2000; Lappin-Fortin & Rye, 2014). It allows students time to reflect on their own speaking skills and to pay attention to more aspects of their speaking performance than is possible while speaking at the same time.

Time for reflection is not always enough. Learners may need support to notice and become aware of the different aspects of their speaking performance (Dlaska & Krekeler, 2008; Goh, 2017; Lappin-Fortin & Rye, 2014; Poehner, 2012). Being aware of the existence of different aspects of speaking is a first step, evaluating those aspects goes further. Research has shown that it is difficult for foreign language learners to assess aspects of their own performance. Low correlations have frequently been found between self-assessments and tests and between self-assessments and other measures shown to be valid and reliable (Blanche, 1988; Poehner, 2012; Ross, 1998). An explanation for such low correlations might be that L2-learners lack the metacognitive and linguistic knowledge to determine the

appropriateness of their utterances. Low self-assessments as well as low correlations with more objective scores were especially reported for self-assessments of grammar and pronunciation (Blanche, 1988). Research has shown that feedback or instruction (about concrete rules for instance) helps learners to assess more accurately (see for example Lappin-Fortin & Rye, 2014; Jones, 1997; Dlaska & Krekeler, 2013). Blanche (1988) stated that self-assessments give information about the extent to which students can appraise their own speaking performance. With this information teachers can tailor their feedback or instruction. The self-assessments give insight into individual learning needs. Learners who can assess accurately enough, do not have to depend entirely on the opinion of teachers (Blanche, 1988) and teachers can gradually reduce their support.

For learners to benefit from instruction and feedback, they need to have the opportunity to gain evaluative experience in an iterative process (Dlaska & Krekeler, 2013; Sadler, 1989). Then learners' ability to assess their speaking performances may improve over time (see for instance Couper, 2003; De Saint Léger & Storch, 2009; Lappin-Fortin & Rye, 2014).

Support can be provided by instruction and feedback but the self-assessment instrument itself can also support learners to assess themselves more accurately (Ross, 1998). Self-assessment instruments can focus the learners' attention on more categories of the speaking performance than they might do without an instrument. Criterion-referenced self-assessment instruments which are tailored to course objectives are helpful for this purpose (Brantmeier, Vanderplank & Strubbe, 2012). Important factors which influence accuracy are being connected with specific curricular content (Brantmeier et al, 2012; Ross, 1998) and doing the self-assessments directly after completing specific tasks (Butler & Lee, 2006).

Furthermore, self-assessment instruments should not only focus on areas for improvement, but also on positive points. Research in positive psychology has shown that reflecting on positive points activates positive emotions that in turn are beneficial to learning (Voerman, Meijer, Korthagen & Simons, 2012).

In short, in order to notice different aspects of their speaking performance, students can be supported by allowing them time to reflect on a recording of their own speaking performance using a self-assessment instrument and by providing input (instruction) and feedback.

The comparator and the reference value

De Bot (1996) argued that L2 learners benefit more from being pushed to retrieve target language forms than from merely hearing the forms in the input, because retrieval and subsequent production can strengthen associations in memory (cf. Swain's pushed output hypothesis, 2005). The activity of reflecting after speaking may strengthen learning even more, because reflecting on both positive points and areas for improvement pushes learners once again to retrieve already internalized target language forms and this time to compare them with their current speaking production.

In order to compare the current with the desired situation, learners have to possess a concept of what they think the desired speaking performance should look like (Sadler, 1989). They compare what they notice and understand of their own speaking performance (the input) with an internal reference or standard. According to Black and William (2009: 15) "the learners' standards will depend in part on their interpretation of the task, on their perception of the criteria and targets for success, on their personal orientation towards the task, and on their view of the time constraints."

In order to support the development of such an internal reference or standard, all kinds of input can be provided through exposure to target exemplars. This positive evidence gives the learner information about what is possible in the language (Lyster, et al., 2013). Support can be provided in the form of models of the desired speaking performance and examples of appropriate linguistic aspects with which the students can compare their own performance (Poehner, 2012; Préfontaine, 2013).

It is of course possible to support students by providing external standards (for instance in the form of a rubric) with criteria for the quality of the speaking performance. These can be descriptive or normative. Descriptive standards can help the learner to see how they can develop (Brantmeier et al., 2012; Little, 2009). In our view, it is important that the external standards are not normative given the purpose of this study. We aimed at stimulating students' reflection on the strengths and weaknesses of their performances, so that aspects associated with success or high quality could be recognized and reinforced, and unsatisfactory aspects modified or improved (Sadler, 1989). The value of comparing resides in the development stimulated through the process of comparing the current with the desired situation (e.g. Bennett, 2011; Orsmond, Merry & Reiling, 2002; Poehner, 2012). The intention is to let learners think about their own performance, their own goals, what is needed and how

to attain new goals. In contrast, normative standards which contain scales or scores serve to rank a performance in comparison to others (Cauley & McMillan, 2010; Clark, 2012; Yin, Shavelson, Ayala. Ruiz-Prima, Brandon, Furtak & Young, 2008) and might direct attention away from the reflection on which aspects can be reinforced or improved towards the question of how good the performance was (Cauley & McMillan, 2010). By using normative standards, performance differences become the most important concern and this may have negative effects on motivation and achievement (Yin et al., 2008; Butler, 1987; 1988).

Output: plan for improvement and improved speaking performance

Students' assessments and self-assessments can be used by teachers to adapt their instruction, activities for improvement and feedback (Black & William, 1998; 2009; Nicol & Macfarlane-Dick, 2006). If the goal is to promote self-regulation of speaking skills, then students should ideally also take the step themselves of taking action to close the gap between their current and desired speaking performance (Cauley & McMillan, 2010; Sadler, 1989). Students must set goals and make plans for improvement themselves on the basis of their own assessment of the different aspects of their speaking performance, (Cauley & McMillan, 2010). Providing opportunities to practise these activities is necessary for learners to gain experience (Sadler, 1989). Self-assessments can encourage student decision-making about what to do and when to do it (Cauley & McMillan, 2010). In addition, support may be needed to stimulate learners to make appropriate plans and to execute these plans.

Firstly, learners can be supported by providing suggestions for activities for improvement, giving choices and asking questions about what they think they need to improve (Cauley & McMillan, 2010). Suggestions for activities for improvement can be deduced from research about developing second language speaking. De Jong, Steinel, Florijn, Schoonen & Hulstijn (2012), for instance, showed that linguistic knowledge about lexical items, chunks, morphosyntax, pronunciation and processing speed are to a large extent important for communicative success. Instruction and activities that encourage the acquisition of this knowledge should be available to the students and be an option for their plans. Processing speed and fluency could be stimulated by practising speaking and automatization (DeKeyser, 1997; Segalowitz & Hulstijn, 2005). Research into task repetition, in which learners do the same or a similar speaking task a few more times, immediately or at a later time, showed positive effects such as more accurate and idiomatic speech and greater

fluency (Bygate, 1996; 2001). This is why Goh (2012; 2017) pleads for repetition of the speaking task as an activity for improvement. She also emphasizes the importance of pre-task planning (2012; 2017). Following Skehan (1998) and Segalowitz (2010), she recommends giving learners time to plan before a task, to think of what to say and how to say it. That helps to free up attentional space during speaking for articulation of ideas, speech monitoring and self-repair (Goh, 2017: 252). Another improvement activity can be learning chunks, fixed phrases, which will lead to more fluent speech, and learning compensating strategies such as asking for repetition, paraphrasing, describing and asking for help, to keep the conversation going (e.g. De Jong, 2020; Goh, 2017).

Secondly, learners can indicate in their plans whether they need help, about what and from whom (teacher or peer) and formulate a request for help (Clark, 2012; Nicol & Macfarlane-Dick, 2006). This activity stimulates awareness of the learning process.

Thirdly, teachers can provide feedback on the improvement plans. The process of self-assessing and making plans generates internal feedback at a variety of levels (i.e. cognitive, motivational and behavioural) (Butler & Winne, 1995; Nicol & Macfarlane-Dick, 2006; Sadler, 1989). Although this internal feedback is invisible, learners' assessment provides information about how they are progressing and how they are regulating this process (Nicol & Macfarlane-Dick, 2006). The output in the form of a learner's plan for improvement with any request for help, and the congruence or lack of congruence of this plan with the assessment of the speaking performance provides information about the degree and kind of support the learner needs in this process. Teachers can use this information to help students self-assess and improve their own performance (Cauley & McMillan, 2010) and also to provide feedback on the self-regulation process itself which can enhance learning (Hattie & Timperley, 2007).

After executing the plan, after activities for improvement and feedback, it is important to offer students the opportunity to do the speaking task again and to have them check whether their speaking performance has indeed improved (Bygate, 2001; Nicol & Macfarlane-Dick, 2006). The improved speaking performance can serve as input for a new feedback-loop, resulting in an iterative learning process which promotes learning. Little (2013: 8) states that "[...] by monitoring our performance we gradually reinforce and/or modify our competences." By replaying and analysing their own production, learners strengthen associations in memory (the 'generation effect', Clark, 1995). Moreover, learners remember information better when they take an active part, rather than having it provided by an external source (deWinstanley

& Bjork, 2004), and this iterative process can provoke positive feelings by giving the students control over the learning process.

Affect creating loop

According to Carver and Scheier (2000: 1717; 2012: 32), feelings arise during the process of self-regulation as learners compare their current performance to the desired situation. Learners evaluate how well they are doing at reducing discrepancies over time, and the negative or positive feelings resulting from this evaluation of progress over time may in turn influence the learning process. Negative feelings such as stress, fear of failure and anxiety may hamper the learning process (Boekaerts, 2010; Bandura, 1997). Especially for speaking skills, research has shown that anxiety often plays an important negative role (Cheng, Horwitz & Schallert, 1999, Horwitz, Horwitz & Cope, 1986; Simons & Decoo, 2009;). The threat to one's self-image is the main cause of speaking anxiety (Horwitz et al., 1986). A safe environment and insight in one's own capacities help to reduce anxiety (Horwitz et al., 1986; Simons & Decoo, 2009).

Several positive effects of self-assessments have been reported. De Saint Léger and Storch (2009), for instance, found that self-assessment of speaking skills has positive effects on self-confidence and on the willingness to communicate orally in class. By giving students insight and the opportunity to control their own learning process, positive feelings can be provoked and anxiety can be reduced. Ownership of students' own learning process can have a motivational effect (Blanche, 1988; Cauley & McMillan, 2010). In assessments, students are given some control over their learning by giving them the opportunity to reflect on the criteria for the task and on the steps needed to meet the learning goal (Cauley & McMillan, 2010). Furthermore, the opportunity to perform the same task several times helps them to get a better grip on their own learning process (Bygate, 2001) and to perceive progress. The iterative process of monitoring and improving may result in self-efficacy which in turn generates positive feelings about self-regulation of speaking skills (e.g. Bandura, 1997).

4.2.3 Design Principles

The aim of this study was to contribute to the goal of guiding students to become autonomous learners in learning to speak foreign languages and to provide concrete design principles to support this learning process adaptively. In the previous section we described requirements

for each component of the process of self-regulation (see Figure 8 the feedback loop based on Lord et al., 2010; Carver & Scheier, 1998; and Powers, 1973) and the possible needs for feedback and support. If students have to learn to fulfil all the different parts of the process of self-regulation more and more independently, they have to be given the opportunity to gain evaluative experience (Sadler, 1989) and control or ownership of their learning process in a safe environment (Blanche, 1988; Cauley & McMillan, 2010; De Saint Léger & Storch, 2009). Based on the review outlined above, the following design principles can be drawn up for a self-evaluation procedure that aims to support students to learn to improve their speaking skills through self-regulation:

1. Add a self-evaluation by the student to a speaking activity

- a. *Start the self-evaluation procedure with the student's diagnosis of a recording of their own speaking performance.*

In order to get the students to reflect on various linguistic aspects of their speaking, such as grammar, vocabulary, pronunciation and fluency, as well as communicative competence (getting the message across), provide a self-reflection instrument which the students complete directly after completing the speaking task which enables the self-assessment or diagnosis (Butler & Lee, 2006). The self-evaluation instrument has to contain criteria to evaluate both areas for improvement and positive points (Voerman et al., 2012) in a non-normative manner in order to help them to notice different aspects and to enhance learning (Brantmeier et al, 2012; Cauley & McMillan, 2010) as well as for affective reasons (Yin et al., 2008; Butler, 1987; 1988).

- b. *Let students make a plan for improvement*

Self-regulation should be further enhanced by having students make a plan for improvement (Cauley & McMillan, 2010). This would also give students control over their own learning process which may be motivating (Blanche, 1988; Cauley & McMillan, 2010). Suggestions on what kind of activities could be undertaken should be provided for their plans at this stage (Cauley & McMillan, 2010).

c. Let students indicate their need for assistance

Let learners indicate whether they want to work autonomously, with a peer, or whether they need assistance from the teacher. Regulating the degree of autonomy by indicating the kind of support they need gives control to learners.

2. Provide adaptive activities for improvement and 3. Provide adaptive feedback

Teachers make inferences about what their students know and can do and adapt their feedback and instruction based on this knowledge (Bennett, 2011). In regular teaching, those inferences about the learners' speaking skills are based on what teachers hear and know from previous experiences in the classroom. The self-evaluation procedure gives teachers additional information provided by the students' diagnoses, plans for improvement and desired working format or requests for help. Teachers can scan the evaluations for discrepancies with their own inferences, tailor their feedback and propose learning activities aligned with learners' current level and degree of self-regulation (Sadler, 1998). If students are already independent learners, they can select and arrange improvement activities themselves.

1-3. After executing the plan for improvement, let the students redo the same or a similar speaking activity with self-evaluation

Give students the chance to repeat the same (or similar) speaking activity to find out whether they have progressed and to put into practice what they have learned. Task repetition can help learners to advance (Bygate, 2001; Goh & Burns, 2012; Goh, 2017). Then a new cycle of monitoring and improving can begin.

4.3 Research aim and research questions

The overarching research aim was to ascertain to what extent a self-evaluation procedure can be an adaptive resource for secondary school students to learn to improve speaking skills in foreign languages through self-regulation. Since the aim of the self-evaluation procedure was to support secondary school students to fulfil all of the different parts of the process of self-regulation more and more independently, to reflect on various aspects of their speaking performance and to make appropriate plans, the following specific research question was formulated:

- A. To what extent did the students' perception of their learning needs change during the self-evaluation procedure?

It was intended that students could execute their plans with the activities and feedback they needed to improve their speaking performance during the self-evaluation procedure. Therefore, the following research question was formulated:

- B. To what extent did the students consider feedback and activities for improvement provided during the self-evaluation procedure to be adaptive to their needs?

Finally, as mentioned in the theoretical framework, an affect-creating loop operated parallel to the process of self-regulation and influenced it (see Figure 8, Carver & Scheier, 2000). Findings described in the Theoretical Framework section of this chapter suggest that positive feelings could be provoked and anxiety reduced through students' control, ownership and insight into their own learning process during the self-evaluation procedure. The self-evaluation procedure was designed to enable them to learn from both positive and negative points and to gain control over the learning process. As a result, speaking anxiety might be expected to decline and positive feelings to be provoked. The following research question was formulated:

- C. To what extent did students experience the self-evaluation procedure as motivating and did their speaking anxiety change during the course of iterations of the self-evaluation procedure?

4.4 Method

4.4.1 Participants

Experimental group

The study was conducted among 329 students learning a foreign language at regular secondary schools in the Netherlands. Their foreign language teachers (two German teachers, four English teachers, three French teachers and two Spanish teachers) were recruited by Leiden University Graduate School of Teaching. They were asked in an e-mail whether, in the context of a study, they and their students were prepared to fill in questionnaires on speaking skills in the classroom and to try out a new approach for adaptive feedback and support which consisted of *self-evaluation procedures* in order to improve students' speaking skills. The self-evaluation procedures were carried out at 10 different schools offering three different types of secondary education: two year-2 vwo classes, two year-3 vwo classes, one year-4 vwo class, three year-5 vwo classes, two year-6 vwo classes, one year-2 havo class, three year-3 havo classes, one year-4 havo class, three year-5 havo classes and one year-3 vmbo class. For the purpose of this study, it was not necessary to select students with the same level of language skills, background, motivation or other variables, because we were particularly interested in the extent to which students, who are learning a foreign language at regular secondary schools and may have all kind of different characteristics, perceive the feedback and activities for improvement provided as tailored to them.

Control group

The control group consisted of 369 students learning a foreign language at regular secondary schools in the Netherlands. Their teachers were recruited by Leiden University Graduate School of Teaching and asked in an e-mail whether they and their students were prepared to fill in two digital questionnaires on speaking skills in the classroom in the context of a study into adaptive feedback and support for speaking skills. 329 students of 17 modern foreign language teachers (five German teachers, five English teachers, six French teachers and one Spanish teacher) completed both questionnaires (pre- and post-measurement) about teaching speaking skills in year-3 vwo, year-4 vwo, year-5 vwo, year-6 vwo, year-2 havo, year-3 havo, year-4 havo, year-5 havo, and year-3 mavo/vmbo classes.

4.4.2 Research instruments

Two sets of instruments were used:

- A diagnosis tool and a questionnaire provided in the form of an app for mobile phones (Appendix I), completed by the students of the experimental group. The diagnosis consisted of an audio recording of the speaking performance and questions in which the students evaluated their speaking performances, made plans for improvement and indicated preferences for a working format (in order to answer research question A, see below) (Appendix I, part A, B and C). In addition, the app contained questions designed to evaluate the feedback and activities for improvement provided during the specific cycle of the self-evaluation procedure (in order to answer research question B, see below) (Appendix I, part D).
- A digital questionnaire (Appendix II) which consisted of questions about adaptivity (Appendix II, part A), speaking anxiety (Appendix II, part B), and motivation for the self-evaluation procedure (Appendix II, part C, questions X-Y) (in order to answer research questions B and C, see below).

Below we describe these instruments in more detail.

Instruments to answer research question A about changes in the students' perception of what they need to improve their own speaking skills during the self-evaluation procedure

Students' diagnosis with plan and desired working format

Each diagnosis (see Appendix I) contained the following elements:

- Analysis by student of positive points and areas for improvement: five categories of the speaking performance (message, vocabulary, grammar, pronunciation and fluency) could be evaluated as 'positive point', 'question mark (?)' or 'area for improvement'.
- Plan for improvement: for each category of the diagnosis (getting the message across, vocabulary, grammar, pronunciation, fluency), two activities for improvement could be chosen from a list of 12 activities. As argued in the theoretical framework in this chapter, these activities were focused on acquiring and automatizing linguistic knowledge about vocabulary, chunks (fixed phrases), grammar and pronunciation. These activities were categorized under the headings: vocabulary, grammar and pronunciation. Activities for task repetition and automatization for which the aim was to speed up the speaking process and improve fluency,

were categorized under the heading fluency. Pre-planning by giving learners time to think of what to say and how to say it, was an activity categorized under the heading 'getting the message across'.

- Desired teaching/learning format: individual work, pair work, teacher's assistance.

Instruments to answer research question B about adaptivity

Digital questionnaire to measure the extent to which students considered feedback and activities for improvement in speaking lessons to be adaptive to their learning needs

In a digital questionnaire (Appendix II.A.) students of the experimental and control group scored the extent to which they considered feedback and activities for improvement to be adaptive on a 7-point Likert-scale. Three items concerned the feedback they received and three items concerned activities for improvement.

Digital questionnaire in an app to measure the extent to which students considered feedback and activities for improvement in a specific cycle of the self-evaluation procedure to be adaptive to their learning needs

A questionnaire (presented in an app after each specific self-evaluation-procedure cycle, see Appendix I, part D, questions 7-10) asked whether during a specific self-evaluation procedure cycle student's intended plan for improvement had been implemented, and whether feedback and activities for improvement had been sufficient to improve their speaking performance.

Instruments to answer research question C about motivation and speaking anxiety

Digital questionnaire to evaluate each students' activities making up the self-evaluation procedure

Learners' motivation for the different students' activities making up the self-evaluation procedure consists of three components derived from Fishbein and Ajzen (2010), namely: attitude toward the behaviour; perceived behavioural control (beliefs about the factors that may facilitate or impede performance of the behaviour); and intention to do all or part of the self-evaluation in future. The motivation for each of the following students' activities were scored on a 7-point Likert scale in the experimental group (Appendix II.B):

- recording and re-listening to their own speaking performance (Questions 1-3)
- doing a self-evaluation of their own speaking performance (Questions 4-7)

- producing a plan for improvement (Questions 8 – 11)
- executing the plan for improvement (Questions 12 – 15).

Dutch translation of the FLCAS, the Foreign Language Classroom Anxiety Scale adopted from Horwitz, Horwitz & Cope, 1986.

This questionnaire consisted of 33 items to measure speaking anxiety in class on a 5-point Likert scale (Appendix II.C).

4.4.3 Procedure

As a baseline measurement, all students of the experimental group (n=329) and the control group (n=369) completed the digital questionnaire on their perception of adaptivity of feedback and activities for improvement (Appendix II.A) at the start of the research. In addition, 171 students of the experimental group and 369 of the control group filled in the questionnaire about speaking anxiety (Appendix II.C).

Subsequently, the students of the experimental group were given speaking skills lessons in the foreign language using the self-evaluation procedure over four months while the control group did not use the self-evaluation procedure for training speaking skills in foreign languages. The students of the experimental group did one or several self-evaluation cycles. One cycle of a self-evaluation procedure consisted of performing a speaking activity followed by the student's self-diagnosis with plan for improvement (Appendix I). On the basis of the self-diagnosis and plan for improvement, the student received adaptive feedback and activities for improvement from their teacher in order to improve their speaking performance. The cycle was completed with an end-diagnosis of the performance of the speaking activity. From 281 students of the experimental group 1,024 self-diagnoses were collected. They included two plans for improvement each (Appendix I). Additionally, the adaptivity of the feedback and activities for improvement provided during the implementation of the plans was evaluated by the students for 339 self-evaluation procedures in total (Appendix I).

After four months, a post-test was carried out. Both the experimental (n=225) and control group (n=329) once more completed the digital questionnaires about adaptivity of feedback and activities for improvement (Appendix II.A) and speaking anxiety (Appendix II.C) (179 from the experimental group and 329 from the control group). In addition, 225 students

from the experimental group filled in a questionnaire about learners' motivation for the different parts of the self-evaluation procedure (Appendix II.B).

Dropouts

In the experimental group, the questionnaire about speaking anxiety was administered separately from the questionnaire about adaptivity, in order not to tax the students too much. As a consequence, not everyone from the experimental group filled in both parts of the questionnaires in the post-measurement (46 students of the experimental group did not fill in the second part of the questionnaire). This unfortunately led to more data loss than in the control group who had one questionnaire in the post-measurement containing both parts.

4.4.4 Analysis

Research question A

To answer research question A - *To what extent did the students' perception of their learning needs change during the self-evaluation procedure?* - we examined

1. to what extent were there shifts in students' observation of different aspects in their diagnoses of their speaking performances and in their plans in consecutive cycles of the self-evaluation procedure;
2. to what extent did they go through the self-regulation cycle more independently after several self-evaluations.

and performed the following analyses:

Understanding/noticing in students' self-evaluations

To answer the question to what extent were there shifts in students' observation of different aspects in their diagnoses of their speaking performances and in their plans in consecutive cycles of the self-evaluation procedure (research question A.1), we chose to compare the first cycle with the fourth cycle, because we assumed that learners have to do several cycles to make progress in learning how to monitor their own learning process. Moreover, the learners differed in the number of cycles they did (from 1 (n=281) to 9 cycles (n=1)). In the fourth cycle half of the initial number of learners' data were still complete (n=142). The variety of cycles was caused by choices made by the teacher about the pace of doing speaking activities with

self-evaluations during the period of the intervention. The pace was tailored to the students, the curriculum and other differences in the context.

In order to evaluate changes within learners, we included the same 142 students for the first and fourth cycles in the analyses and used the McNemar-Bowker test for matched pairs. In this way, we examined whether the evaluations in the first cycle were focused on certain categories of errors and positive points in particular by counting the frequencies of areas for improvement and the frequencies of positive points the students had noticed in their first cycle for the categories (message, vocabulary, grammar, pronunciation and fluency) and compared these frequencies with frequencies in the fourth cycle for each category.

In the same way, we used the McNemar-Bowker test to investigate to what extent shifts in focus in the plans for improvement occurred.

Development in independence

To answer the question to what extent the students went through the cycle of self-regulation more independently (research question A.2) we used the McNemar-Bowker test for matched pairs to analyse the extent to which students requested their teacher's assistance in the fourth cycle compared to the first cycle.

Research question B

To answer research question B - *To what extent did the students consider feedback and activities for improvement provided after their diagnosis to be adaptive to their needs?* – we performed two different analyses:

Adaptivity of activities for improvement and feedback from the learners' perspective – pre- and post-test

We first calculated the reliability (Cronbach's alpha) of the items in the questionnaire that should measure the same constructs, namely: the construct adaptive activities for improvement and the construct adaptive feedback. Both proved to be reasonably reliable (adaptive activities for improvement $\alpha = .68$; adaptive feedback $\alpha = .76$ after deleting one item).

With participants in this study taught by different teachers, the data were structured hierarchically. Since teachers could influence differences in the extent to which students

found support and feedback adaptive, linear multilevel analyses were applied, with teacher added as random variable. Linear Mixed models (SPSS version 25, using the Satterthwaite's approximation to calculate denominator degrees of freedom) were carried out in order to investigate whether there were differences in the degree of adaptivity between the experimental and the control group (factor between subjects) and whether there were differences between the pre- and post-test (factor between subjects), in a first analysis for activities for improvement and in a second analysis for feedback. The same students participated in the pre- and post-tests. Because student-ID was not recorded in the questionnaires, the pre- and post-test scores could not be linked to individual students and therefore, this factor was treated in the analyses as a between-subjects factor.

For both analyses, we tested whether adding teacher (as random intercept) as well as adding a random slope for time per teacher contributed significantly to the model. In order to do this we compared the simpler with the more complex models by comparing the difference in Log Likelihood and chi-squares. In this way, we tested whether some teachers elicited higher scores than others in general (teacher as random intercept) and whether the difference between pre-test and post-test would be different for different teachers (by adding the random slope). Analyses revealed that teacher contributed to both models, and that a random slope for time also contributed to the model for adaptivity of activities for improvement. These models are reported on below. Whenever significant interactions were found between time and group, we carried out post-hoc analyses (data split by group), to interpret this interaction.

Adaptivity of activities for improvement and feedback after a cycle of the self-evaluation procedure – intermediate tests

The number of times the students found the *activities for improvement* to be adaptive were compared to what would be expected by chance (50%) using the binomial probability function. This analysis was also carried out for *feedback*.

Research question C

To answer research question C – *To what extent did students experience the self-evaluation procedure as motivating and did their speaking anxiety change during the course of iterations of the self-evaluation procedure?* – we examined:

1. to what extent the students were motivated to carry out the different main activities of the self-evaluation procedure;
2. to what extent students' speaking anxiety changed after carrying out the self-evaluation procedure;

and we performed two different analyses:

Learners' motivation for the different students' main activities of the self-evaluation procedure

We first calculated the reliability (Cronbach's alpha) of the items in the questionnaire that should measure the same constructs, namely the different students' main activities of the self-evaluation procedure: 1) recording and re-listening to their own speaking performance; 2) doing a self-evaluation of their own speaking performance; 3) producing a plan for improvement; 4) executing the plan for improvement. All proved to be reliable (respectively: $\alpha = .81$; $\alpha = .79$; $\alpha = .80$; $\alpha = .79$).

As in the analysis above for adaptivity, the data were structured hierarchically and linear multilevel analyses were applied, with teacher added as random intercept. Mixed repeated measures analyses (SPSS version 25, using the Satterwaithe's approximation to calculate denominator degrees of freedom) were carried out in order to investigate whether there were differences in students' motivation between the separate components of the self-evaluation procedure. Because student-ID was recorded for the four components, this factor was treated as a within-subjects factor in the analyses.

As before, we tested whether adding teacher (as random intercept) contributed significantly to the model by comparing the simpler with more complex models by comparing the difference in Log Likelihood and chi-squares. Analyses revealed that teacher contributed to the model.

Since significant differences were found between students' motivation for the different main activities, we carried out pairwise comparisons with Bonferroni adjustment, to interpret the differences.

Speaking Anxiety

We investigated to what extent students' speaking anxiety changed in a pre-test and after a few cycles (post-test). To do this we first calculated the reliability (Cronbach's alpha) of the 33

items in the questionnaire that was used to measure the same construct, namely: speaking anxiety in the classroom (Cronbach's $\alpha = ,911$).

Again, linear multilevel analyses were applied, with teacher added as random intercept in order to investigate whether there were differences in the degree of speaking anxiety between the experimental and the control group (factor between subjects) and whether there were differences between the pre- and post-test (factor between subjects). As already mentioned, the same students participated in the pre- and post-tests but because student-ID was not recorded, this factor was treated as a between-subjects factor.

For the analysis, we tested whether adding teacher (as random intercept) as well as adding a random slope for time per teacher contributed significantly to the model by comparing the simpler with more complex models by comparing the difference in Log Likelihood and chi-squares. Analyses revealed that only teacher contributed to the model and, therefore, this model is reported on below.

4.5 Results

4.5.1 Results for research question A

To what extent did the students' perception of their learning needs change during the self-evaluation procedure?

Understanding/noticing in students' self-evaluation

Table 4.1 shows the frequencies and percentages of the diagnoses in the first cycle and the fourth cycle for each category (message, vocabulary, grammar, pronunciation and fluency) for students that filled in the self-evaluation in cycle 1 and cycle 4 ($n = 142$).

Table 4.1
Diagnoses

Category	Cycle 1				Cycle 4			
	Area for improvement	Positive	Don't know	Total	Area for improvement	Positive	Don't know	Total
Message	5	120	17	142	7	111	24	142
	(3.5%)	(84.5%)	(12.0%)	(100%)	(4.9%)	(78.2%)	(16.9%)	(100%)
Vocabulary	18	95	29	142	24	83	35	142
	(12.7%)	(66.9%)	(20.4%)	(100%)	(16.9%)	(58.5%)	(24.6%)	(100%)
Grammar	36	67	39	142	20	79	43	142
	(25.4%)	(47.2%)	(27.5%)	(100%)	(14.1%)	(55.6%)	(30.3%)	(100%)
Pronunciation	39	49	54	142	38	61	43	142
	(27.5%)	(34.5%)	(38.0%)	(100%)	(26.8%)	(43.0%)	(30.3%)	(100%)
Fluency	55	55	37	142	30	72	40	142
	(35.2%)	(38.7%)	(26.1%)	(100%)	(21.1%)	(50.7%)	(28.2%)	(100%)

Table notes: Frequencies (and percentages) of the diagnoses (area for improvement, positive or don't know) for each aspect of the speaking performance (categories: message, vocabulary, grammar, pronunciation and fluency) in cycle 1 and cycle 4.

These results indicate that in general (both in cycle 1 and cycle 4), learners were mainly positive about the different aspects of their speaking performances, and especially about getting their message across (84.5% and 78.2%) and their vocabulary (66.9% and 58.5%). The students in our sample were least satisfied with fluency and pronunciation in both cycles. ‘Don’t knows’ occurred the least for message and the most for pronunciation and grammar.

The McNemar-Bowker Test shows a significant shift for the category grammar ($X^2(3) = 8.57, p = .036$): satisfaction for grammar increased from cycle 1 to cycle 4 (see Table 4.1). A trend was found for fluency ($X^2(3) = 7.72, p = .052$): for this category satisfaction also tended to increase from cycle 1 to cycle 4. Other shifts were found to be non-significant (for message $X^2(3) = 3.24, p = .355$; vocabulary $X^2(3) = 3.70, p = .296$; pronunciation $X^2(3) = 3.15, p = .370$)

Table 4.2 shows the frequencies and percentages of the focus of plans for improvement in the first cycle and the fourth cycle for each category (message, vocabulary, grammar, pronunciation and fluency).

Table 4.2

Focus of plans for improvement

Category	Cycle 1	Cycle 4
Message	90 (31.7%)	76 (26.8%)
Vocabulary	43 (15.1%)	42 (14.8%)
Grammar	55 (19.4%)	33 (11.6%)
Pronunciation	58 (20.4%)	71 (25.0%)
Fluency	38 (13.4%)	62 (21.8%)

Table notes: Frequencies (and percentages) of the focus of the plans for improvement (categories: message, vocabulary, grammar, pronunciation and fluency) in cycle 1 and cycle 4 and shifts from cycle 1 to 4.

Although in general the learners evaluated message as positive (Table 4.1), Table 4.2 shows that most plans for improvement focused on the message. Most students planned to think about what to say in advance, before doing the speaking activity and to note keywords and expressions.

The McNemar Bowker test indicated that the students shifted in their focus from cycle 1 to cycle 4 ($\chi^2 (10) = 28.42, p = .002$). As can be seen from Table 4.2, the greatest increase occurred for fluency (increase of 8.4%) and the greatest decline for grammar (decline of 7.8%).

In the first cycle the plans were least focused on fluency, and in the fourth cycle the least on grammar.

Development in independence

Table 4.3 shows the frequencies and percentages for the preferences for assistance from the teacher, collaboration with a peer or independent learning while executing the plan for improvement in the first and fourth cycles.

Table 4.3

Preferences for teacher's assistance, peer-work or independent learning

	Cycle 1	Cycle 4
Teacher's assistance	41 (14.4%)	18 (6.3%)
Peer	115 (40.5%)	101 (35.6%)
Independent	128 (45.1%)	165 (58.1%)

Table notes: Frequencies (and percentages) of preferences for teacher's assistance vs. peer work vs. independent learning in cycle 1 and cycle 4.

A McNemar test showed a significant shift from cycle 1 to cycle 4 ($\chi^2 (3) = 17.14, p = .001$). As can be seen from Table 4.3, this shift was mostly due to a decline in the need for teachers' assistance and a significant increase in preference for independence.

4.5.2 Results for research question B

To what extent did students experience feedback and activities for improvement as adaptive?

Adaptivity of activities for improvement and feedback from the learners' perspective - pre- and post-test

To establish whether there were differences in perceived adaptivity of the activities for improvement between the experimental and the control group and whether there were differences between the pre- and post-tests, the experimental group was compared to the

control group. Table 4.4 shows the means and standard deviations for adaptivity of the activities for improvement, resulting from the pre- and post-tests. Multilevel analyses revealed that neither the effect of time ($F(1, 19.090) = 1.106, p = .306$), nor the effect of group ($F(1, 21.926) = .019, p = .893$), nor the interaction ($F(1, 19.090) = 2.852, p = .108$) were significant. These results indicate that there was no effect of the intervention of the self-evaluation procedure on the students' perception of adaptivity of the activities for improvement.

Table 4.4***Adaptivity of activities for improvement***

Group	Pre-test			Post-test		
	Means	SD	n	Means	SD	n
Experimental Group	4.19	1.07	329	3.93	1.17	225
Control Group	4.20	1.17	369	4.21	1.20	329

Table notes: Means, SD = standard deviations, n= number, for the adaptivity of activities for improvement on pre- and post-tests for the experimental and control group.

The experimental group was compared to the control group to investigate whether there were differences in the perceived adaptivity of the feedback between the two groups and whether there were differences between the pre- and post-tests. Table 4.5 shows the means and standard deviations for the adaptivity of the support, resulting from the pre- and post-tests. Multilevel analyses revealed that the effect of time ($F(1, 1249.167) = 28,379, p < .001$), and the interaction ($F(1, 1249.167) = 10,005, p = .002$) were significant. The effect of group ($F(1, 22.841) = 2.416, p = .134$) was not significant. In a post-hoc test, we found that only for the experimental group, was there a significant effect for time ($p < .001$), there was no effect for the control group ($p = .096$). These results indicate that the students in the experimental group perceived feedback aimed at improving their speaking skills as less adaptive in the period of the intervention (when the self-evaluation procedure was carried out) than before the intervention.

Table 4.5
Adaptivity of feedback

Group	<u>Pre-test</u>			<u>Post-test</u>		
	Means	SD	N	Means	SD	n
Experimental Group	4.38	1.18	329	3.76	1.25	225
Control Group	4.53	1.26	369	4.37	1.28	329

Table notes: Means, SD = standard deviations, n= number, for the adaptivity of feedback on pre- and post-tests for the experimental and control group.

Adaptivity of activities for improvement and feedback after a self-evaluation-procedure cycle – intermediate tests

Table 4.6 shows, from 339 self-evaluation-procedure cycles, whether or not the students considered the activities for improvement and feedback provided during a specific cycle to be adaptive. It appeared that both activities for improvement and feedback were considered adaptive by the students more often than one would expect on the basis of probability calculations (50%), both p 's < 0.001.

Table 4.6
Adaptivity of activities for improvement and feedback after a self-evaluation-procedure cycle

	Total	Not adaptive	Adaptive
Activities for improvement	n=339	83 (169.5)	256 (169.5)
Feedback	n=339	102 (169.5)	237 (169.5)

Table notes: Observed frequencies (and expected frequencies) of *self-evaluation-procedure* cycles in which activities for improvement or feedback were or were not found to be adaptive by students.

4.5.3 Results for research question C

To what extent did students experience the self-evaluation procedure as motivating and did their speaking anxiety change during the course of iterations of the self-evaluation procedure?

Learners' motivation for the different students' main activities of the self-evaluation procedure

Table 4.7 shows the differences in students' motivation for the different main activities of the self-evaluation procedure: 1) recording of and re-listening to their speaking performances; 2) doing a self-evaluation of their speaking performances; 3) producing a plan for improvement; 4) executing the plan for improvement. Mixed repeated measures analyses revealed that there were differences between these components ($F(3, 225.0) = 19.96, p < .001$). Follow-up pairwise comparisons revealed that the differences between all four parts of the self-evaluation procedure were significant ($p's \leq .027$). As can be seen from Table 4.7, these results indicate that producing a plan for improvement and especially executing a plan for improvement were the most appreciated components of the self-evaluation procedure.

Table 4.7

Learners' motivation for the different components of the self-evaluation procedure

	Mean	Standard Deviation	N
1) Recording and re-listening to their own speaking performance	3.28	.17	225
2) Doing a self-evaluation of the own speaking performance	3.60	.16	225
3) Producing a plan for improvement	3.77	.16	225
4) Executing the plan for improvement	3.96	.15	225

Notes: Means, standard deviations, and n = number, for students' motivation for the different parts of the self-evaluation procedure

Speaking Anxiety

The experimental group was compared to the control group to establish whether there were differences in speaking anxiety between the two groups and whether there were differences between the pre- and post-tests. Table 4.8 shows the means and standard deviations for speaking anxiety, resulting from the pre- and post-tests. Multilevel analyses revealed that neither the effect of time ($F(1, 1037.877) = .000, p = .997$), nor the effect of group ($F(1, 22.095) = 2.231, p = .149$), nor the interaction ($F(1, 1037.877) = .184, p = .668$) were significant. These results indicate that there was no effect of the intervention of the self-evaluation procedure on the students’ speaking anxiety. Overall scores (between 2.58 and 2.75) were slightly lower than neutral on speaking anxiety but the standard deviations suggest quite large differences.

Table 4.8
Speaking anxiety

Group	Pre-test			Post-test		
	Means	SD	n	Means	SD	n
Experimental	2.74	.56	171	2.75	.63	179
Group						
Control	2.59	.60	369	2.58	.63	329
Group						

Table notes: Means, SD = standard deviations, n= number, for speaking anxiety on pre- and post-tests for the experimental and control group.

4.6 Conclusions and discussion

Guiding students to become autonomous learners in learning to speak foreign languages is an important goal in foreign language education (Holec, 1981; Lee, 1998; Little, Dam & Legenhausen, 2017), but difficult to realize in regular classroom settings in secondary schools (chapter 3). The aim of this study was to investigate whether a self-evaluation procedure could be an adaptive resource for secondary school students to learn to use self-regulation to improve their foreign language speaking skills. We first outlined what is needed to promote

self-regulation in speaking skills in order to derive design principles for the teaching practice. We then proposed a concrete self-evaluation procedure for speaking skills based on these design principles which we implemented in a number of secondary schools. We investigated the extent to which changes occurred in students' perceptions of learning needs as they tried to improve their speaking skills after four iterations of the self-evaluation procedure and to what extent the students perceived the self-evaluation procedure as motivating and the feedback and activities for improvement as adaptive to their needs. Below, we discuss our results and possible explanations for each research question in more detail.

Research question A To what extent did the students' perception of their learning needs change during the self-evaluation procedure?

An important goal of the self-evaluation procedure was to support secondary school students to become more and more independent in fulfilling all the different parts of the self-regulation process. The results showed that the perceived need for teachers' assistance decreased and the preference for independence increased in the fourth cycle compared to the initial round. This suggests an improvement in self-regulation.

Regarding the diagnoses and plans for improvement, some perceptions remained the same, but shifts in diagnoses and focus of plans were also found. In both cycles, the secondary school students generally evaluated many aspects of their speaking performance as positive. The number of 'don't knows' did not change much but areas for improvement decreased in the fourth cycle. That might indicate that the students were more satisfied with their speaking performances in the later cycles because they had improved their speaking skills.

We found from the diagnoses that students were particularly positive about getting the message across. Nevertheless, most plans for improvement still aimed at improving how they got their message across in both cycles (although there was a decline in focus on the message in the fourth cycle). After all, getting the message across is the most important goal of communication and therefore students' focus will be on that goal. Moreover, a closer look showed that most of the plans for getting the message across were very useful pre-plan activities (Goh, 2017; Goh & Burns, 2012; Skehan, 1998).

In both cycles most 'don't knows' were found for grammar and pronunciation. The results did not show a significant decline in 'don't knows'. However, shifts were found for grammar in diagnoses and plans for improvement: learners were more positive and least

negative about the grammar in their speaking performances in the later cycle and there was a decline in focus on grammar in the plans for improvement from the first to the fourth cycle. Research has shown that learners find it difficult to assess themselves (Blanche, 1988; Poehner, 2012; Ross, 1998), especially on grammar and pronunciation, which might be due to their lack of the metacognitive and linguistic knowledge needed to determine the appropriateness of their utterances (e.g. Blanche, 1988; Lappin-Fortin & Rye, 2014; Dlaska & Krekeler, 2013). A tentative explanation may be that in the first cycle students did indeed have difficulties assessing their grammar and pronunciation, but as they went on, they improved and gained more insight into their grammatical competence stimulated by the self-evaluation procedure.

Besides an increase in satisfaction about grammar in the diagnoses, increasing satisfaction about fluency was also found. While there was least focus on fluency in the plans for improvement in the first cycle, in later rounds, an increase in plans for fluency was found. It seems that students expanded the focus of their plans. The shifts in focus (decline for grammar and for getting the message across, increase for fluency and pronunciation) might indicate that the students had broadened their awareness of different aspects of their speaking performance during the cycles of the self-evaluation procedure.

Research question B *To what extent did students experience feedback and activities for improvement as adaptive?*

Adaptivity of feedback and improvement activities were investigated in two ways: in pre- and post-measurements among an experimental and a control group and in intermediate questionnaires each time directly after the accomplishment of a specific cycle of the self-evaluation procedure carried out by the experimental group.

The results of the pre- and post-measurements showed that, in the period in which the self-evaluation procedure was used, the students found the activities to improve speaking skills equally adaptive and the feedback less adaptive than in regular teaching practice. However, the findings from the intermediate questionnaires indicated that students mainly considered that both improvement activities and feedback were tailored to their needs in the specific self-evaluation procedure cycles.

One way to interpret these data is that the questionnaire in the pre- and post-measurement addressed a whole period of time, whereas the interim questionnaire focused

on a specific cycle of the self-evaluation procedure. The perception of the feedback and improvement activities would be more concrete in such interim questionnaires than when asked about feedback and activities in general over a longer period of time.

Another explanation for the decline in the post-measurement might be that students had become more critical through the self-evaluation procedure, that is, more conscious by thinking about whether they were getting what they needed.

Research question C To what extent did students experience the self-evaluation procedure as motivating and did their speaking anxiety change during the course of iterations of the self-evaluation procedure?

The results showed a mean of 3.65 for appreciation of the different main activities of the self-evaluation procedure on a scale of 5. It was expected that recording and re-listening to their own speaking performances would be the least motivating because listening to one's own voice can be a strange experience, but it was still appreciated with an average score of 3.28. Making and executing a plan for improvement was most appreciated.

We did not find any change in speaking anxiety after the self-evaluation procedure. As with the questionnaire on adaptivity, the questions addressed anxiety about speaking in the classroom in general, rather than anxiety during a self-evaluation-procedure cycle specifically. Additionally, it may be that the period of the intervention (four months) was too short to bring about a change in speaking anxiety. Longitudinal research in which the self-evaluation procedure is used structurally for a long time should show whether the procedure has an effect on the level of speaking anxiety.

Limitations of this study

The ultimate goal of the self-evaluation procedure was to help students to improve their speaking skills themselves. A limitation of this study was that we did not measure whether there was any improvement in speaking skills. The scope of this study was constrained by its aim which was to help students *to learn to self-regulate* their speaking skills. Therefore, we did not measure speaking skills and cannot say whether and to what extent they may have improved.

Another limitation is that this study focused on the perceptions of the students. Shifts in evaluations and plans were found. However, we cannot conclude that these shifts mean

that the students had learned to assess themselves better and make better plans, nor that the self-evaluation procedure actually had an impact on the improvement of their speaking skills. In order to draw such conclusions, follow-up research is required, which would include not only the students' assessments, but also the assessment of an expert, for example the teacher. Moreover, longitudinal research would be required to establish changes in the degree of self-regulation or the improvement of speaking skills over time.

Furthermore, we did not investigate which feedback and which improvement activities the students actually received. Follow-up research in which the teachers' choices regarding the kind of feedback and the concrete provision of learning activities based on the students' plans, would provide more insight into how teachers tailor their feedback and activities to learners' needs.

Another limitation of this research was that the study focused on self-regulation by a heterogeneous group of secondary school students. Further research should be carried out in order to identify any differences in terms of year and language. It might be that lower level students differ from higher classes in meta-cognitive skills and therefore would differ in, for instance, independence and need for assistance during the self-evaluation procedure.

Implications

Despite the limitations of this study, we think it contributes to the development of knowledge about guiding students to become autonomous learners in learning to speak foreign languages. Other researchers have also argued for an iterative learning process in which learners gradually become more independent in self-regulating (e.g. Little, 2017) and some have already proposed a cycle of reflection and task-repetition in order to improve speaking skills (Goh, 2017; Goh & Burns, 2012). This study adds concrete design principles to realize such an iterative learning process and proposes how students could actually go through a process of self-regulation independently by means of a self-evaluation procedure.

This self-evaluation procedure differed from the more common self-assessments in a number of respects. First of all, the evaluation addressed a specific speaking performance and not students' speaking skills in general. Second, the speaking performance was recorded which enabled the students to listen back to their own speaking performance. Third, instead of normative use of self-evaluation, a self-evaluation instrument was used which contained

non-normative criteria that focused students' attention on both areas for improvement and positive points of different aspects of their speaking performance.

Another break from common practice was that the self-evaluation procedure in this study not only consisted of a diagnosis of the speaking skills, it also contained a plan for improvement produced by the students and where necessary students' requests for teacher's assistance.

Finally, the purpose and use of self-assessment was slightly different from other formative uses. In formative uses, self-assessments are often used by teachers to adapt their teaching (e.g. Black & William, 1998; 2009; Nicol & Macfarlane-Dick, 2006). In this study, however, the diagnoses with plans not only provided information for the teacher, but also aimed to support students to self-regulate their speaking skills. On the basis of their diagnoses, the students themselves had to design and implement their own learning pathways, indicating where they needed help in order to enable the teachers to align their feedback and learning activities.

In conclusion, the results of this study showed that during the self-evaluation procedure students' perceptions of their learning needs did indeed change and that students found the procedure to improve their self-regulation of their speaking skills in foreign languages both adaptive and motivating. We therefore recommend use of the design principles of the self-evaluation procedure for teaching practice in secondary schools. We hope that follow-up research into their effects will be carried out.

Chapter 5

An adaptive approach to teachers' professional development in the context of *SpeakTeach*: an innovative approach to teaching foreign language speaking

Abstract

The study reported in this chapter investigated how teachers can be supported in expanding their teaching repertoire in the context of a specific innovation (the new adaptive teaching approach for speaking skills in foreign languages, described and investigated in the previous chapters). For teachers' professional development it is important to take both teachers' goals and their current teaching practice into account and to build on this existing teaching practice and provide steps which enable the incorporation of the new teaching proposal. In order to realize such a professional development trajectory, the design principle of modularity was used following other studies (Janssen, Grossman & Westbroek, 2015) and self-evaluation by the teacher was added as second design principle. An adaptive development trajectory was designed on the basis of these two interrelated design principles and we investigated whether adaptive learning routes could be realized within this development trajectory in which teachers could achieve both the goals of the innovation (the developed adaptive teaching approach for speaking skills in foreign languages) and their own objectives in a way that fitted in with and built on what they were already doing in their teaching practice. To this end, self-evaluations by the teachers (n=11) of their teaching practice were used to determine how they implemented the different procedures⁶ of the new teaching approach in consecutive lesson series and to describe their learning routes. In addition, an impact analysis (Janssen, Westbroek & Doyle, 2014a) was used to collect data about advantages and disadvantages of the regular teaching practice and lesson series based on the new teaching approach. The results showed that almost all teachers (10 out of 11) succeeded in expanding their teaching repertoire in line with the goals of the innovation and followed adaptive learning routes to their own satisfaction. We distinguished three different successful learning routes: builders who stayed close to their regular teaching practice and built stepwise on their routines towards a new teaching practice. Innovators with big steps back who experimented with new practices at the beginning and then took big steps back. A related group, innovators who refined, also

⁶ The adaptive teaching approach (the *SpeakTeach* method) consists of three design principles from the perspective of students (see chapters 3 and 4), and of two design principles from the perspective of the teacher. In this chapter, where the teacher's perspective is central, we refer to the three design principles from the student perspective with *procedures* to avoid confusion. With *design principles* in this chapter we refer to the design principles from the perspective of the teachers: the use of modularity and self-evaluation by the teachers, because these were the design principles for tailoring the professional development trajectory to teachers' goals and existing teaching practice.

experimented directly with new practices, but did not take big steps back afterwards. Instead they consolidated and refined the application of the procedures of the new teaching approach.

5.1 Introduction

Educational innovation has been strongly linked to teachers' professional development (Borko, Jacobs & Koellner, 2010; Kennedy, 2016a). There is agreement in this context regarding features of professional development that are effective in improving teaching practice: the content should be situated in practice; it should be focused on students' thinking and learning; innovative practices should be modelled and coached; and teachers should be actively and corroboratively engaged in professional learning communities (Borko et al., 2010).

In addition to these effective features, it is increasingly recommended that teachers' professional development be approached adaptively. In line with the assumption that students learn better when education is tailored to their learning needs (Corno, 2008; Van de Pol, Volman & Beishuizen, 2011), it is important to attune to the teachers' goals and to their current situation (e.g. Kennedy, 2016a; 2016b; Janssen, Westbroek, Doyle, & Van Driel, 2013).

In the context of an innovation, however, it is difficult to realize adaptive learning routes. In this case a desired direction for professional development had already been determined and in general the purpose was to encourage teachers to expand their teaching repertoire by following a specific innovative teaching approach. According to Kennedy (2016a: 973), we do not have well developed ideas about how to help teachers incorporate new ideas into their ongoing systems of practice.

This chapter focuses on the question of how, in the context of a specific innovation, adaptive learning routes can be realized in which teachers can achieve both the goals of the innovation and their own objectives in a way that fits in with and builds on what they are already doing in their teaching. To this end, two interrelated design principles for an adaptive professional development trajectory were explored, namely modularity and self-evaluation. These two design principles were elaborated for adaptive professional development in the context of an innovative teaching approach for speaking skills in foreign languages. We investigated to what extent the professional development trajectory actually led to adaptive learning routes for the participating teachers.

5.2 Theoretical framework

Attuning to teachers' goals

It is clear that teachers must support the goals of an innovation if they are to implement it into their teaching practice. According to Kennedy (2016a), teachers usually do support the goals of innovation but the problem is that they have to reconcile those goals with other goals arising from classroom ecology (Doyle, 2006; Janssen, Grossman & Westbroek, 2015). Classroom ecologies in which teachers work are complex demanding settings that shape their decision-making processes and actions. In order to enhance students' learning, teachers have to realize different goals at the same time, such as teaching the curriculum content, enlisting student participation, exposing student thinking, containing student behaviour, accommodating personal needs, and managing time and resources (Doyle, 2006; Janssen et al., 2015; Kennedy, 2016b). Moreover, teachers have to react immediately to the different needs and have to make decisions very quickly in a classroom situation (Doyle, 2006). Research into human decision-making in complex situations where multiple goals need to be achieved and time and resources are limited has shown that it is not possible to determine and weigh all alternatives to attain the goals simultaneously, due to lack of knowledge, time and information capacity (Gigerenzer & Gaissmaier, 2011). For this reason, people do not strive to optimize one single goal, but they seek to improve the actual situation so that several goals can be attained to an adequate level (Pollock, 2006). Any new teaching practice needs therefore to be consistent with the other goals that teachers have to realize (e.g. Kennedy, 2016b; Janssen et al, 2013).

In conclusion, a professional development trajectory should not only do justice to the purpose of the innovation but should also fit in with the contextual and personal goals of the teachers.

Attuning to teachers' current practice

Traditional forms of professional development aimed to improve teaching practice by providing new teaching proposals which were intended to change or replace the current teaching practices (Borko et al., 2010; Van Veen, Zwart & Meirink, 2012). In these approaches, the focus was not on current teaching practice, but on learning about the new teaching approach. Adoption of the new idea often meant abandonment of teachers' prior teaching

approaches (Kennedy, 2016a). As a result, innovations often failed (Van Driel, Beijaard & Verloop, 2001). Since teachers already have a teaching repertoire that has arisen from experiences, knowledge and attunement to the context, and that has been proven in practice, it is important to take this existing repertoire into account (Van Driel et al., 2001).

It is now generally recognized that teachers develop their knowledge and teaching repertoire on the basis of existing teaching routines (Darling-Hammond & Bransford, 2007; Bransford, Derry, Berliner & Hammerness, 2005). Two dimensions to this development have been discerned: routines and innovation (Figure 9). On the one hand, it is important that teachers refresh their teaching repertoire. Teaching requires adaptation and innovation in order to respond to changing demands, new insights and knowledge and to fulfil teachers' own changing needs, preferences and capabilities. On the other hand, routines are necessary in order to save time and to respond efficiently in situations through automatization and quick recognition of patterns on the basis of knowledge and experience (Feldon, 2007). The routines free up cognitive effort since not every aspect of the teaching context has to be analysed every time in order to choose an appropriate reaction. The released cognitive capacity allows teachers to enact innovative approaches and to react to unexpected classroom circumstances (Feldon, 2007; Bransford et al., 2005).

It is important for professional teacher development to take the balance between routines and innovation into account. A one-sided focus on the development of routines leads to boredom and stagnation. Conversely, too much focus on innovation might result in frustration, loss of control and rejection of new teaching proposals (Bransford et al., 2005; Darling-Hammond & Bransford, 2007). Bransford and Darling Hammond (2005; 2007) suggest therefore that a stepwise progression which simultaneously builds on existing routines and embeds innovations works best.

In order to support teachers to expand their teaching repertoire, professional development should build on the existing teaching repertoire and provide steps which enable the incorporation of the new teaching proposal. In addition, it should be recognized that teachers must be able to pursue different goals at the same time. In the next section we propose two principles to realize such an adaptive professional development trajectory: *modularity* to provide flexibility and steps to improve towards more ambitious practices and *self-evaluation* of existing teaching practice as the starting point of an adaptive learning route for improvement.

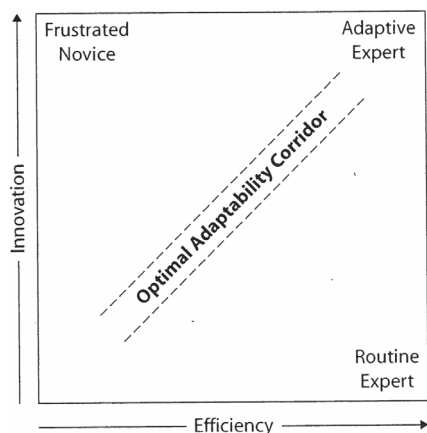


Figure 9 *The trajectory toward adaptive expertise balances efficiency and innovation via the optimal adaptability corridor.* Source: reprinted from Bransford, Derry, Berliner, & Hammerness (2005: 49).

Principle 1: Modularity

How can you take existing practice as a starting point and still innovate in the direction of the desired innovation? This may be realized through modular innovation. Modularity denotes a general strategy in which a complex system or activity is broken up into parts, or modules, and recombined to generate new combinations and to reform the system concerned (Holland, 2012; Janssen et al., 2015: 139). Innovations in complex man-made systems such as cars, houses and computers are often based on slight adaptations and or recombinations of existing components. For example, with the same set of components for houses, like walls, windows, floors, rooms and roofs, we can generate an incredible variety of houses through recombination and adaption. Typical modules for computers are, for instance, power supply units, processors, mainboard, graphics cards et cetera. Many different computer models can be built by recombining and adapting these modules.

In short, innovation can be achieved through recombination and adaptation of existing modules or building blocks. This innovation strategy is both generative and efficient. It is generative because with only a limited number of modules, a great diversity of new situations can be formulated. It is an efficient way of innovating, since it re-uses already existing components (Holland, 2012).

We can also apply this strategy to promote innovation of a teacher's repertoire building on the teacher's existing practice (Janssen et al, 2015; for empirical studies see: Janssen, Westbroek & Doyle, 2014a; Dam, Janssen, Van Driel, 2013; Janssen, Westbroek, Doyle & Van Driel, 2014b; Janssen, Hulshof & Van Veen, 2016). In order to promote modular innovation in education, it is important to first describe the existing teaching practice and the innovative approach at a comparable level of abstraction. Teachers often say that innovative proposals are not practical. This is because the desired approach is often presented abstractly and as a stand-alone whole. As a result, it is not clear how to transform the abstract ideas and goals efficiently into concrete classroom activities that fit in with the existing classroom demands and other goals (Doyle & Ponder, 1977; Janssen, Westbroek, Doyle & Van Driel, 2013; Janssen et al., 2015; Kennedy, 2016b). For this reason, both the existing teaching practice and the desired situation must be formulated in terms of comparable modules, or *building blocks*, at the same level of description (Janssen et al., 2015; Simon, 1996). A module, or a building block is a recognizable lesson segment of a regular lesson series. For language lessons building blocks could be input (reading texts or listening fragments), exercises (for instance focused on grammar or vocabulary), speaking activities and feedback (see chapter 3, 3.2.2).

Subsequently, if the current and desired situation are represented in similar building blocks, modularity helps to show the differences and how these can be reduced by adapting and recombining the existing modules (Janssen et al., 2013). In this way, teachers can innovate and expand their current teaching repertoire by selecting and recombining building blocks that already exist in their current teaching practice. The possibility to recombine the building blocks and use them in different sequences makes the innovative teaching approach flexible (see chapter 3, 3.2.3). This flexibility is intended to help teachers to integrate new repertoire stepwise into their existing practices in a way that is time-saving and consistent with their own aims, by using their existing repertoire (perhaps in a different order). As a result, different learning routes can be followed to arrive at the innovative teaching practice.

Principle 2: Self-evaluation of existing teaching practice as a starting point for an adaptive learning route

Reflection on practice has been widely accepted as an important ingredient in professional development trajectories (Marcos, Sanches & Tillema, 2011). Many programs encourage

teachers to reflect on their experiences and to formulate and try out new resolutions. For professional development in the context of innovations, reflective thinking and acting is also considered to be important because it helps teachers to gain insight into the relevance of innovation in relation to daily teaching practice and because connections are made with their own teaching repertoires (Borko et al, 2010). Similarly, language students are also invited to reflect on their experiences and to formulate and try out new resolutions. Since we use the term self-evaluation in the student context to refer to these processes, we will use the same term in the context of teacher professional development.

Although self-evaluation is widely valued, it is often difficult for teachers to relate their current teaching practice to the innovative approach, because innovative approaches are often described at a quite abstract level in terms of the criteria which the design and enactment should meet (Janssen et al., 2013; Kennedy, 2016b). Modularity can facilitate targeted self-evaluation by representing the current teaching practice and the innovation in similar building blocks at the same level of description which enables the teacher to compare their current teaching approach to the proposed innovation and to note advantages and disadvantages. On the basis of the self-evaluation of the existing and desired situation, the teacher formulates goals and intentions for improvement, and chooses how and in what steps, to integrate the building blocks of the innovation (the new teaching approach) into his/her teaching practice.

Teachers' self-evaluations also enable them to tailor the professional development trajectory to their own needs as they provide information for both the teachers themselves and the facilitator of the professional development trajectory about what the teachers do, experience and wish to achieve and what tailored input and activities are needed. Instead of prescribing a specific method and activities, the self-evaluation allows facilitator and teacher to make decisions together about the necessary guidance, input and activities and what the next steps could be. Since teachers are likely to differ in their existing situation and their goals, there will be a need for adaptive learning routes. A professional development trajectory must take these differences into account. A one-size-fits-all approach will not work. Instead, different activities are needed from which teachers can choose (Henze, Van Driel & Verloop, 2009). For this reason, we decided to start the professional development trajectory with a self-evaluation by the teacher followed by differentiated activities.

5.3 Research aim and research questions

The theoretical framework addressed the question of how adaptive routes can be set up in the context of educational innovation, enabling teachers to achieve both the goals of the innovation and their own goals in a way that fits in with, shapes and builds on what they already do in practice. In this study the educational innovation for a professional development trajectory addressed a teaching approach for adaptive feedback and differentiated activities to improve speaking skills in foreign languages. We called this educational innovation the *SpeakTeach* method. The aim of the research was to investigate the extent to which the professional development approach we had developed, which is based on modularity and self-evaluation, actually led to adaptive learning routes in the context of the innovation (namely in the context of implementing the *SpeakTeach* method). In this study, *adaptive within the context of the innovation* means that we were interested in the extent to which teachers achieved the goals of the innovation (the implementation of the *SpeakTeach* method) as well as their other goals to their own satisfaction by following learning routes they had chosen themselves, and whether they intended to apply all or parts of the innovation (i.e. the *SpeakTeach* method) in the future.

This led to the following sub questions:

- A. To what extent did the teachers achieve the goals of the innovation (i.e. the *SpeakTeach* method) and their other goals and to what extent were they satisfied with the achievement of their goals?
- B. To what extent did the teachers follow adaptive learning routes in the context of the innovation (i.e. the *SpeakTeach* method) and to what extent did they intend to continue the *SpeakTeach* method in the future?

5.4 Method

5.4.1 Context

The adaptive professional development trajectory in this study aimed to support foreign language teachers in expanding their repertoire of adaptive feedback and differentiated activities for improvement in their regular teaching of speaking skills in secondary schools, because research has shown that adaptive feedback is desirable but not common practice in

teaching (Gass & Mackey, 2012; Lyster, Saito & Sato, 2013; Yoshida, 2008), due to practical constraints of the classroom ecology (Chapter 3; Corda, Koenraad & Visser, 2012; Fasoglio, 2015). An innovative teaching approach was developed for this purpose, the *SpeakTeach method*, which is modular and presented in, for teachers, recognizable building blocks (see chapter 3). The core of the *SpeakTeach* method consists of three procedures. Procedure 1: the students listen to a recording of their speaking performance, evaluate their own performance and make a plan for improvement, and indicate their preference for working method and whether they need assistance from the teacher. This self-evaluation with plan provides insight into learning needs to both teachers and students and enables adjustment and alignment of learning activities. Procedure 2: the teacher provides activities to improve the speaking performance and chooses how to steer the working method on the basis of the self-evaluation (alternatively but less commonly the students may do this themselves). Procedure 3: the teacher adjusts feedback based on the students' self-evaluations (alternatively but less commonly feedback may be provided by peers). Multiple variations on the core (the three procedures) are possible which generate versions which differ in the degree of alignment in the lessons, in the degree of learner autonomy, and in the degree of differentiation of activities and adaptive feedback. The *SpeakTeach* method was made adaptive to students by starting with a self-evaluation by the learner and attuning the student's learning route to that and the professional development trajectory was made adaptive to teachers in a similar way.

5.4.2 Participants

The study was conducted among the same foreign language teachers of the experimental group who applied the *SpeakTeach* method in their teaching (see chapter 3). It was not necessary to have a homogenous group of teachers with similar teaching practices. Since the precise purpose of the study was to develop an *adaptive* professional development trajectory which would enable teachers to expand their teaching repertoire with an innovative teaching approach that would fit in with their practices, a heterogeneous group of teachers was desirable. Complete datasets were available from 11 foreign language teachers. Data from each teacher about his/her regular teaching and data about a maximum of three *SpeakTeach* lesson series were selected from these datasets for the present study.

5.4.3 Intervention

The 11 foreign language teachers participated in a professional development trajectory (PDT) comprising five meetings of three hours each spread over three months, followed by an implementation of the *SpeakTeach* method in their own teaching for four months. The PDT started with a self-evaluation by the teachers of their existing methods of teaching speaking skills. In the first meeting, the facilitator of the PDT (the author, see chapter 1) showed a visual representation in building blocks of a regular lesson series teaching speaking skills (Figure 1, chapter 2) and checked whether the teachers recognized this kind of teaching by discussing concrete examples of lessons (e.g. speaking activities and preparatory exercises in course books) provided by both participants and the facilitator. After that, the teachers produced a visual representation of their own regular teaching practices using similar building blocks and evaluated advantages and disadvantages. They then compared their teaching practice to the new approach, the *SpeakTeach* method, which was presented in similar building blocks (Figure 4, chapter 3) by the facilitator of the PDT. The three procedures of the *SpeakTeach* method and possible different ways in which they can be carried out were discussed, as well as advantages and disadvantages of the method and the procedures. Finally, the teachers indicated in their self-evaluations what they wanted to improve, how, and what kind of support they needed or preferred. Subsequently, depending on the teachers' goals, learning needs and preferences which had been noted in their self-evaluations and discussed with the facilitator, differentiated activities were provided during the professional development trajectory such as modelling, discussion, exchange, individual work and experimentation. In addition, according to the needs raised, instruction was provided about effective feedback according to research and teachers' experiences and this was discussed. By using recordings of students' speaking performances and speaking activities in course books, participants and the facilitator discussed how to formulate feedback, how to design guided or free communicative speaking activities and how to ensure alignment in lesson series. Finally, the teachers designed *SpeakTeach* lesson series based on the design procedures and in line with their own goals, which they then implemented in their teaching. The intervention was concluded with an evaluation meeting.

5.4.4 Research instruments

In order to answer the research questions, we used the following instruments:

1. A self-evaluation by the teachers of their regular teaching practice (see Appendix III), containing:

- a. *A visual presentation in building blocks of their regular teaching practice* (Appendix III.A)

The teachers were asked to make a visual presentation in building blocks of a representative regular lesson series in speaking skills (such as Figure 4, chapter 3) in order to show the type and order of the lesson segments that made up their regular lesson series.

- b. *Goals for improvement* (Appendix III.C)

In an open question the teachers were asked to formulate and prioritize goals in order to improve their current practice of teaching speaking skills (a maximum of five goals).

2. Open questions about advantages, disadvantages and difficulties of the Teaching Impact Analysis (see Appendix IV and V (part A), questions 3-5)

From the teaching impact analysis (Janssen et al., 2014a, see chapter 3. and Appendix IV and V, part A) that was used to establish the practicality of the teachers' regular teaching and the *SpeakTeach* method, open questions about advantages, disadvantages and difficulties were used in this study. The teachers were asked to write down the five most important advantages, disadvantages and difficulties of their regular methods of teaching speaking skills in a pre-test and a post-test.

3. A description of each *SpeakTeach* lesson series (Appendix VI), containing:

- a. *A visual presentation in building blocks of the SpeakTeach lesson series*

The teachers were asked to visualize each *SpeakTeach* lesson series they carried out in building blocks (such as Figures 4 and 5, see chapter 3) in order to show the type and order of the lesson segments that made up their lesson series (see Appendix VI, A. *Structure of a SpeakTeach round*).

- b. *Questionnaire about the design of the SpeakTeach lesson series*

The questionnaire contained 10 closed questions to characterize the lesson series: number of speaking activities; type of speaking activities; place of self-evaluation; type of structure; type of input for improvement; type of supporting exercises for improvement; type of working

methods; who determines which input and exercises are done; in which order and with which working method; and focus and organization of feedback (see Appendix VI, *B. Specification of a SpeakTeach round*).

4. An evaluation of the *SpeakTeach lesson series* (Appendix IV and V.A), containing:

a. *Open questions about advantages, disadvantages and difficulties*

The evaluation contained the open questions of the impact analysis (Appendix IV and V, questions 8-10). The teachers were asked to write down the five most important advantages, disadvantages and difficulties of their regular teaching practices and their lesson series with the *SpeakTeach* method in a post-test.

b. *Evaluation of the goals for improvement*

Satisfaction with their achievement of each personal goal that they had formulated (see instrument 1.b, above) was scored by teachers on a 7-point Likert scale with an open field for explanation (Appendix V.C, questions 25-29).

c. *Application of all or parts of the SpeakTeach methodology in the future*

Teachers were asked to score their intention to apply all or parts of the *SpeakTeach* method in the future on a 7-point Likert scale with an open field for explanation (Appendix V, part D, questions 30-31).

5. A question by email about whether teachers had actually applied all or parts of the *SpeakTeach* method in the new school year seven months after the intervention.

5.4.5 Procedure

The 11 participating teachers started the first meeting of the professional development trajectory (see intervention) with a self-evaluation of their regular teaching practice in speaking skills. This self-evaluation consisted of making a visual representation in building blocks of a representative regular lesson series in speaking skills (instrument 1.a), of evaluating their current methods by writing down advantages and disadvantages (instrument 2) and finally of formulating and prioritizing their own goals for improving their current teaching practice in speaking skills (instrument 1.b.). After five meetings in three months, the teachers designed and implemented two or more *SpeakTeach* lesson series in their teaching over four months. A *SpeakTeach* lesson series is a lesson series in which students have to achieve a certain speaking goal and in which the three procedures of the *SpeakTeach* method are

applied. For each *SpeakTeach* lesson series teachers filled in the questionnaire and made a visual representation (instruments 3). After about four months the teachers were asked to evaluate the *SpeakTeach* lesson series they had conducted (instrument 4a). They scored their satisfaction with the achievement of their goals (instrument 4b) and indicated to what extent they intended to apply all or parts of the *SpeakTeach* methodology in the future on a 7-point Likert scale (instrument 4c). After the intervention some teachers (n=6) kept in touch with the facilitator on their own initiative and proceeded with the *SpeakTeach* method for the rest of the school year and continued in the new school year. The other teachers (n=5) were asked by e-mail whether they had continued with the *SpeakTeach* method in the new school year (about 7 months after the intervention) (instrument 5).

5.4.6 Analysis

An overview was produced for each teacher which consisted of five types of data: teachers' intended goals (instrument 1b); the scores for the extent to which the teachers were satisfied with the achievement of their goals (instrument 4b); the application of the procedures of the *SpeakTeach* method in the lessons (instrument 1 and 3); the score for the extent to which the teacher intended to apply all or parts of the *SpeakTeach* method (instrument 4c); and continuation or not with all or parts of the *SpeakTeach* method in the new school year (5). In order to produce this overview, the data about the goals and the application of the procedures were encoded as set out below.

Coding goals

To determine whether the teachers' goals were congruent with the goals of the innovation or were other teaching goals, the data (instrument 1c) were encoded as follows:

1 = related to the goal of procedure 1, namely insight into learners' learning process and alignment of speaking activities with input and exercises;

2 = related to the goal of procedure 2, namely to adjust steering of working method, input and exercises to learners' autonomy and/or preferences;

3 = related to the goal of procedure 3, namely to adjust feedback to individual learning needs.

O = Other goals which may be related to teaching speaking skills but which were not included in the goals of the procedures, such as: improvement of speaking activities, and improvement of the testing of speaking skills. Practical goals were also included, concerning, for instance,

time, resources, class size, and organization. The author and an assessor (a teacher educator at ICLON, Leiden University Graduate School of Teaching) assigned the scores (Cohen's $\kappa = 1.0$).

Coding the extent to which the procedures had been applied in regular lessons and SpeakTeach lesson series

In order to determine to what extent the teachers had applied the three procedures of the *SpeakTeach* method (instrument 3) and to what extent they had already used these procedures in their regular teaching practice (instrument 1), all three procedures were scored on a scale from 0 (not applied) to 3 (maximum application) (see chapter 3, section 3.5.1, and Tables 3.1, 3.2 and 3.3 for explanation).

Data analysis research question A

In order to answer research question A - *To what extent did the teachers achieve the goals of the innovation (i.e. the SpeakTeach method) and their other goals and to what extent were they satisfied with the achievement of their goals?* – we analysed the encoded data to ascertain:

1. whether the teachers had goals that were consistent with the goals that the innovation aimed to achieve (goals 1, 2 or 3, related to procedure 1, 2 or 3) (data instrument 1b);
2. whether the teachers had experimented with the procedures (extent of application of the procedures) and whether they were satisfied that the implementation of the procedures had helped them to achieve their goals (data instruments 1 and 3, and instrument 4b);
3. whether the teachers had any other goals than those intended by the innovation (code O) and, if so, whether they were satisfied with the implementation of these other goals. Being satisfied would mean that other personal goals could be achieved within the context of the innovation (data instruments 1b and 4b).

Data analysis research question B

In order to answer the first part of research question B – *To what extent did the teachers follow adaptive learning routes in the context of the innovation, i.e. the SpeakTeach method* – we used the scores for the extent to which each teacher applied each procedure in their regular teaching and in each *SpeakTeach* lesson series as described in chapter 3, section 3.5.1 (see

Table 3.1, 3.2 and 3.3, chapter 3). We used these data to examine whether trends / patterns in shifts could be discovered in how the procedures were applied by the 11 participants in their different lesson series. To discern different patterns, we based our method on the Adaptive Expertise Model of Bransford et al. (2005, see Figure 9) and examined how big the steps were which teachers took in applying the procedures (*innovation*) in relation to their regular teaching (*routines*). We considered one step as a one-point difference in score in application of a procedure between successive lesson series, two steps as a two-point difference in score, and three steps as a three-point difference. No difference in score meant that no step in development had been taken (see scores table 3.1, 3.2 and 3.3).

For the second part of research question B – *To what extent do the teachers intend to continue using the SpeakTeach method in the future?* – we examined the data on their intention to apply all or parts of the SpeakTeach method in future and the actual application of all or parts of the SpeakTeach method in the subsequent school year.

Finally, to illustrate the adaptive learning routes, we looked for similar learning routes in the teachers' application of the three procedures (instrument 1 and 3) in their teaching in the different rounds, and described representative cases of these similar learning routes. To describe these cases we used the collected data in the following order: description of the regular teaching practice (instrument 1a); advantages and disadvantages experienced (instrument 2); goals (instrument 1b); implementation of the three procedures (instrument 3); achievement and satisfaction with teacher's goals (instrument 4b); advantages and disadvantages of the *SpeakTeach* method and the regular teaching practice (instrument 4a); and intention to apply all or parts of the *SpeakTeach* method (instrument 4c and 5).

5.5 Results

5.5.1 Results for research question A

To what extent did the teachers achieve the goals of the innovation (i.e. the SpeakTeach method) and their other goals and to what extent were they satisfied with the achievement of their goals?

Table 5.1 provides an overview of all the data for each teacher. In the first column the teachers and the possible classification of their goals (goals related to procedures 1, 2 or 3, or other goals (O)) are enumerated. The second column shows the number of the teachers' goals that

were related to procedures 1, 2 or 3 of the *SpeakTeach* method, or to other goals (O) which were not part of the *SpeakTeach* method. The third column shows their satisfaction with the achievement of the goals on a scale of 1 (not satisfied) to 7 (very satisfied). The fourth column shows the steps in the application of the procedures of the *SpeakTeach* method starting with their regular teaching practice (first number) to several *SpeakTeach* lesson series. In the overview (Table 5.1, column 4) the first number refers to the score for their regular teaching practice, the second number refers to the first *SpeakTeach* lesson series, the third number to the second *SpeakTeach* lesson series and if there is a fourth number, it refers to a third *SpeakTeach* lesson series. The fifth column expresses the intention to apply all or parts of the *SpeakTeach* method in future on a scale of 1 (no intention) to 7 (very strong intention) and the sixth column shows the effective application of the procedures in the subsequent school year. The last column 'interpretation' describes the relation between these data (as a response to the three questions in the section headed Data analysis, research question A above).

The interpretations in the last column show that all teachers had goals (29 in total) that corresponded with the goals of the innovation (2 teachers formulated goals related to all three procedures; 9 teachers formulated goals related to one or two procedures). Furthermore, all teachers had experimented with the procedures of the *SpeakTeach* method. However, one teacher could not apply procedure 3 (giving adaptive feedback). The teachers were satisfied (satisfaction score of 4 or more) with the achievement of 22 of the 29 goals related to the innovation and less satisfied (satisfaction score <) with 7 goals. Three of these 7 goals were not achieved to full satisfaction by one teacher (G). In the explanatory note teacher G explained that there were exceptional organizational circumstances which made it difficult for her to teach her class face-to-face and therefore to work on her goals. Besides the goals of the innovation, nearly all teachers (10/11) had other goals (23 other goals in total). They were satisfied with the achievement of 19 of these goals and less satisfied (satisfaction score <4) with 4 goals (2 of these 4 goals were not achieved to full satisfaction by teacher G due to difficult external organizational circumstances).

Table 5.1

Overview for each teacher of their goals, satisfaction with the achievement of their goals, steps in the application of the procedures of the SpeakTeach method, their intention to continue and actual continuation of the application of the procedures after the intervention.

Teacher	Procedures or Other	Number of goals	Extent of satisfaction with achievement goals	Implementation of SpeakTeach procedures	Intention to apply all or parts of the SpeakTeach method	Applied all or parts of the SpeakTeach method in the next school year	Interpretation
A	1	2	6-7	2 3 3 3	7	Yes	Had goals that matched the goals of the innovation, tried the procedures and took steps in procedures 1 and 3 with which the teacher was satisfied. The teacher was less satisfied with the achievement of procedure 2. → goals of the innovation realized; procedure 2 tried but the teacher then went back to the old routine → overall satisfied with the teaching method
	2	1	3	1 3 1 1			
	3	2	4-6	0 3 0 2			
	0						
B	1	1	3	2 1 1 2	7	Yes	Had goals that corresponded with the goals of the innovation and took steps with which the teacher was moderately satisfied. Had other goals. It appears that these goals could be realized within the innovation because the teacher was satisfied with them. → It seems that the teacher achieved other goals, which could be achieved satisfactorily within the context of the innovation. → overall satisfied with the teaching method
	2			1 3 3 3			
	3	1	3	1 3 1 1			
	0	2	5-7				
C	1	1	5	2 2 3	7	Yes	Had goals that corresponded with the goals of the innovation and took steps in that direction with which reasonably satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was very satisfied with them.
	2	1	5	1 3 1			
	3	1	7	0 3 1			
	0	2	6-7				

D	1	2	5-7	2 3 3 3	7	Yes	→ both the objectives of the innovation and other objectives within the context of the innovation realized, teacher satisfied with this. → overall satisfied with the teaching method Had goals that corresponded with the goals of the innovation and took steps in that direction with which the teacher was reasonably to well satisfied. The teacher also had other goals, which apparently could be achieved within the context of the innovation, because the teacher was reasonably satisfied with them. → both the objectives of the innovation and other objectives were realized, and the teacher was satisfied with this. → overall satisfied with the teaching method
	2	1	5	2 3 2 3			
	3			3 3 3 3			
	0	2	4-6				Had one goal that corresponded to one of the goals of the innovation (procedure 3) and took steps in that respect with which reasonably satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was very satisfied with them. → It seems that the teacher mainly achieved other goals, which were achieved satisfactorily within the context of the innovation. → overall satisfied with the teaching method
E	1			2 3 3 3	7	Yes	Had one goal that corresponded to one of the goals of the innovation (procedure 3) and took steps in that respect with which reasonably satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was very satisfied with them. → It seems that the teacher mainly achieved other goals, which were achieved satisfactorily within the context of the innovation. → overall satisfied with the teaching method
	2			1 2 2 3			
	3	1	5	1 3 3 3			
	0	3	6-7				Had one goal that corresponded to one of the goals of the innovation (procedure 3) and took steps in that respect with which reasonably satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was very satisfied with them. → It seems that the teacher mainly achieved other goals, which were achieved satisfactorily within the context of the innovation. → overall satisfied with the teaching method
F	1	2	5-7	1 2 3 2	7	Yes	Had goals that corresponded with the goals of the innovation (procedures 1 and 2) and took steps on all three procedures with which reasonably to well satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was reasonably satisfied. → Both the objectives of the innovation and other objectives were realized with reasonable satisfaction within the context of the innovation.
	2	1	5	1 3 3 2			
	3			0 3 3 2			
	0	2	4-6				Had goals that corresponded with the goals of the innovation (procedures 1 and 2) and took steps on all three procedures with which reasonably to well satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation, because the teacher was reasonably satisfied. → Both the objectives of the innovation and other objectives were realized with reasonable satisfaction within the context of the innovation.

G	1							→ overall satisfied with the teaching method	Had goals that corresponded to the goals of the innovation and took steps on two of the three procedures (not for procedure 2). The teacher also had other goals. The teacher was not satisfied with the implementation of any of the goals. In an explanatory note, the teacher explained that the organizational circumstances at school were very difficult at that time. Normally in these circumstances providing feedback would not be possible at all in regular lessons. Through self-evaluation and recording, the teacher still had an insight into the learning process, even though she hardly saw the students due to the circumstances. → the objectives of the innovation were achieved. Due to difficult organizational conditions, own goals were not achieved satisfactorily → overall satisfied with the teaching method
	2	1	2				Yes		
	3	2	2-3						
	O	2	1-3						
H	1	2	7						Had goals that corresponded to the goals of the innovation (procedures 1 and 2) and took steps in that direction (procedures 1 and 3) with which very satisfied. The teacher also had other goals, which apparently could be realized within the context of the innovation because the teacher was very satisfied with them. → both the objectives of the innovation and other objectives within the context of the innovation were realized and the teacher was satisfied with this. → overall satisfied with the teaching-method
	2	1	7				Yes		
	3								
	O	2	6-7						
I	1								Only had goals that corresponded to one of the goals of the innovation (procedure 3) and took steps in this direction, with which the teacher was satisfied. The teacher had many other goals, which apparently could be realized reasonably well within the context of the innovation because the teacher was reasonably satisfied with them.
	2						Yes		
	3	1	6						
	O	4	5						

									→ both the objectives of the innovation and other objectives were achieved within the context of the innovation, to the teacher's satisfaction; however, the teacher indicated in the explanatory note that she would probably only apply parts of the teaching approach. → The teacher had goals that corresponded to the goals of the innovation (procedures 1 and 2) and made steps in all procedures with which she was reasonably satisfied. She also had other goals. One of those could be achieved reasonably well within the context of the innovation, and the other less well. → overall satisfied with the teaching method
J	1	1	5	0 2 2	7	Yes			
	2			1 2 3					
	3	2	5-6	0 2 1					
	O	2	2-5						
K	1	1	4	0 2 2 2	5	No			Had goals that corresponded with the goals of the innovation (procedures 1 and 2), took steps for procedures 1 and 2 with which the teacher was a little bit satisfied, but procedure 3 did not succeed and so the teacher was not satisfied with this at all. The teacher also had other goals, which apparently could be realized to some extent within the context of the innovation, because the teacher was partially satisfied with these goals. → The teacher had goals with regard to the innovation but the procedure for providing adaptive feedback seemed to be inapplicable. Satisfaction was therefore low. The teacher still considered it possible to use parts of the teaching approach in the future. However, the teacher indicated that he had not used the <i>SpeakTeach</i> method in the following school year.
	2			1 3 3 3					
	3	1	1	1 0 0 0					
	O	2	3-6						

5.5.2 Results for research question B

To what extent did the teachers follow adaptive learning routes in the context of the innovation, i.e. the SpeakTeach method, and to what extent do they intend to continue the SpeakTeach method in the future?

Table 5.1 shows that nearly all teachers (9/11) strongly intended to apply all or parts of the teaching approach (highest score 7) in the future and that 10 teachers actually applied the teaching approach in the subsequent school year.

What did their routes look like? The scores in the fourth column of Table 5.1 indicate the extent to which each teacher had applied the three procedures in their teaching. First of all, a division can be made into 1) teachers who took one or two steps in the procedures starting from their regular teaching methods, but never took two steps at once to the maximum score 3; and 2) teachers who immediately took big steps in innovation (at least for two procedures to the maximum score 3). In the model of Bransford et al. (2005), the first group of teachers (teachers H, I and J) stayed close to the dimension of routines, built stepwise on routines from their regular teaching practice and inserted the procedures progressively. In contrast, the second group seemed to be innovators who experimented directly with big steps. From there we can look at how the teachers developed in subsequent *SpeakTeach* lesson series: one group of innovators can be distinguished who took big steps back (teachers A, B and C) and another group of innovators seemed to fine-tune in later lesson series (teachers D, E, F and G). One teacher fell outside this classification (teacher K), as he did not succeed in applying one of the three procedures at all. Hence, four patterns can be discerned.

Classification 1: the builders (from routine) (n=3, see Table 5.1: teachers H, I and J)

Builders are teachers who applied the procedures of the innovative teaching approach, step by step, building on their own teaching practice. Starting from their regular teaching approach, these teachers took one or two steps in each lesson series, but not always for each procedure and they never took two steps at once to the maximum implementation of a procedure (score 3). They had goals that corresponded with the goals of the innovation among other goals of their own, and were satisfied with what they achieved. In the next school year, they reported that they were still using one or more procedures of the teaching approach in their teaching.

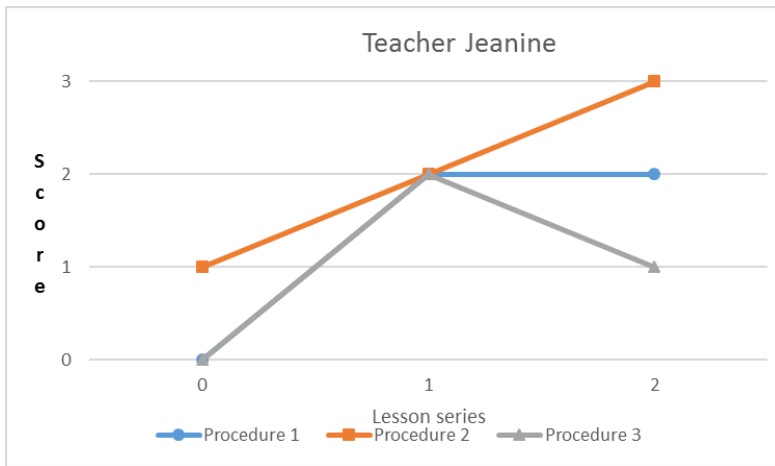


Figure 10: Example of classification 1, the builders: learning route of teacher Jeanine (J)

Case description: teacher Jeanine

In the regular lesson series of teacher Jeanine, there was no explicit alignment of input and exercises to improve speaking activities (procedure 1, score 0), even though supporting exercises were present in the curriculum (grammar, vocabulary, pronunciation, listening fragments). These exercises were the same for all students (procedure 2, score 1). There was hardly any structure in sequences of speaking activities (procedure 1, score 0)). The teacher provided feedback to the class as a whole or to individuals while walking around (procedure 3: score 0). Jeanine mentioned as advantages of her regular teaching practice that little preparation was needed and students could safely practise in pairs. Disadvantages were that students often finished the speaking activity too quickly and that they could withdraw from the activity without being noticed by the teacher. The teacher had little insight into the learning process, she found that assignments were boring for the students and because of lack of time speaking activities were the first thing to be dropped. Jeanine wanted to change the sequence of the speaking activities by adding self-evaluations by the students (goal related to procedure 1). She also intended to vary the feedback provider, to increase the number of feedback recipients, to review the assessment of speaking activities and to introduce more variation in the focus of feedback (goals related to procedure 3).

Jeanine performed two SpeakTeach lesson series in two parallel year 3 pre-university (vwo) classes. In both lesson series she maintained the structure of the book and in this way stayed close to her regular teaching practice. Concerning procedure 1, Jeanine instructed the

students to carry out a self-evaluation of all speaking activities in the lesson series in order to gain a good insight into the learning process (steps in procedure 1, from score 0 to 2 and congruent with her intended goals). Jeanine gave a lot of input and exercises based on what students asked. In the first lesson series the steering of the learning process was shared by teacher and students: Jeanine gave instruction in grammar to the whole class in order to improve the grammar in their speaking performances and afterwards the students chose their own activities (step in procedure 2, from 1 to score 2 although the teacher did not mention this as a goal). In the second lesson series, the work on the improvement activities was entirely student driven (procedure 2, score 3). Concerning feedback (procedure 3), Jeanine indicated that she now gives much more feedback and spends much more time on speaking skills (steps in procedure 3 and congruent with her intended goal) than she did before. The feedback provided in the second lesson series was not based on the self-evaluations due to lack of time but it was based on the speaking performances during recording (score 1). So here she chose a time-saving way to attune feedback.

Compared to her regular teaching practice, Jeanine was more satisfied with the SpeakTeach method for the type of speaking activities (not related to SpeakTeach method); the alignment between the speaking activities and the teacher's and students' insights into students' learning process (related to procedure 1); the input and exercises; and the freedom of choice it gave to the students (procedure 2). Jeanine considered the great advantage of the SpeakTeach lessons to be that there was more opportunity to give adaptive feedback than in her regular teaching practices (procedure 3). As a disadvantage she pointed out that students often placed too much emphasis on grammar in their evaluations and plans (procedure 1). She also mentioned lack of time as a difficulty.

She was satisfied with the implementation of her intended goals: build-up of speaking activities with the addition of self-evaluation (procedure 1); variation in feedback provider and focus of feedback; number of feedback recipients (procedure 3); and testing of speaking activities (other goal). Jeanine had wanted to add free speaking activities but did not do so (other goal).

In the future Jeanine wanted to continue with SpeakTeach lessons. She explained: "I am convinced of the quality and added value". As major advantages for the students she mentioned that they have an influence on their learning process and do not have to do things

they think are unnecessary. In the subsequent year Jeanine reported that she still applied the *SpeakTeach* method.

Classification 2: Innovators with big steps back (n=3, see Table 5.1: teachers A, B and C)

Innovators with big steps back were teachers who took big steps in innovation right at the start, but then took big steps back. These teachers experimented directly with the maximum design (score 3) for at least two procedures of the new teaching approach in the first lesson series and therefore did not stay close to their regular teaching practice. However, after experimenting in this first lesson series, they took big steps back (two steps or more) in the following lesson series. These teachers had goals that corresponded with the goals of the innovation. They were very satisfied with the new teaching approach overall, but not always very satisfied with the realization of all their goals. They all had strong intentions to apply parts of the new teaching approach in future and in the next school year they did indeed report that they were still using one or more procedures of the teaching approach in their teaching.

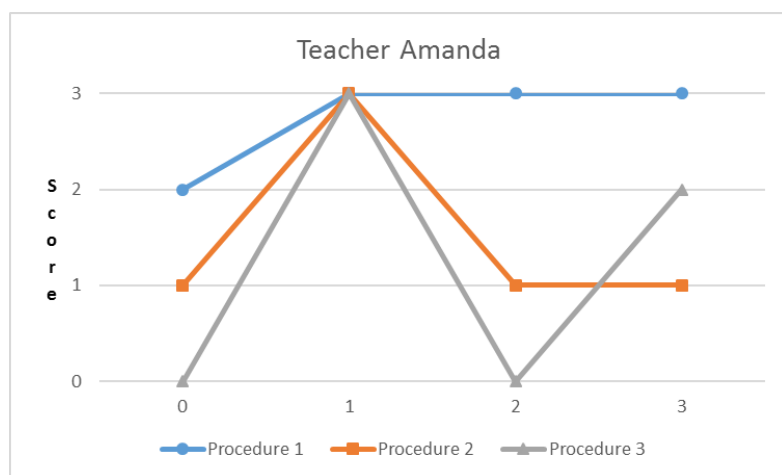


Figure 11: Example of classification 2, innovators with big steps back: learning route of teacher Amanda (A)

Case description: teacher Amanda

Typical of the regular lessons of teacher Amanda was that there were several free speaking activities to achieve the same speaking goal and that, in order to carry out the speaking activities, the students needed to use grammar, vocabulary and expressions that had already been presented to them and which they had learned in the lesson series (procedure 1, score 2:

there was alignment in activities and speaking goal)). She was very satisfied with this structure from the course book. Type, order and working method of the speaking activities and activities for improvement were the same for all students (procedure 2, score 1). Amanda used peer feedback and walked around the class to give feedback on individual speaking performances. She was satisfied with the positive feedback she could give to encourage her students but dissatisfied that she could not give targeted feedback to individual students due to lack of time and large classes (procedure 3, score 0). In order to improve her regular teaching practice, Amanda had decided to have the self-evaluation done at the first speaking activity. After that the students could be given instructions and specific exercises to help them improve followed by another self-evaluation at the end of the lesson series on the same speaking activity (procedure 1: score 3, full alignment). She also wanted to give students more freedom of choice in their learning process (procedure 2: steering).

Amanda performed three SpeakTeach lesson series in the third year of havo. In the first lesson series she experimented with the maximum application of the SpeakTeach method, namely: reversal of order in the lesson (bringing forward the final speaking activity with self-evaluation followed by activities for improvement, procedure 1, from score 2 to 3); complete freedom of choice for the students to improve their speaking performance (procedure 2, from score 1 to 3); and fully adaptive feedback based on the self-evaluations (procedure 3, from score 0 to 3). In all of her SpeakTeach lessons Amanda kept the maximum application of procedure 1 (complete alignment) and she was very satisfied with it. Amanda called this a big change which had made the alignment between the speaking activities and the input and exercises clear.

With regard to the steering of the learning process (procedure 2), her intention was to add more freedom of choice for the students. After the first SpeakTeach experience there was a regression towards teacher steering (score 1). Amanda explained that students indicated that they would like to get more steering in the improvement activities. Concerning procedure 3, Amanda did not give adaptive feedback due to time constraints, only classroom feedback based on previous experiences and the learning objectives and not on the basis of the students' self-evaluations (score 0). In the latest SpeakTeach lesson series; however, Amanda did give adaptive feedback (score 2). Furthermore, the improvement activities were much more attuned to the students in the first SpeakTeach lesson series than in the second and third lesson series (procedure 2).

Amanda considered self-evaluation and adaptive feedback very desirable (procedures 1 and 3). As a positive point of the SpeakTeach lessons, she reported that she could listen to individual students and that there was flexibility in the application of the procedures of the SpeakTeach method: “Students learn to reflect on their own speaking performance and worked actively on improving their speaking skills” (all procedures). Amanda was pleased that she had started to give much more individual and more specific feedback than before (procedure 3). As a disadvantage Amanda reported that freedom of choice did not work well for her students; they appeared to need more clarity and steering (procedure 2). Furthermore, it took Amanda a lot of time, because she listened to all the recordings. She had decided to do so, because students appreciated this so much. Amanda indicated that she probably wanted to use parts of the SpeakTeach method in future. In the new school year, she did indeed report, that she was still applying the SpeakTeach method.

Classification 3: Innovators who refine t (n=4, See Table 5.1, teachers D, E, F and G)

Like the innovators of classification 2, *innovators who refine* also took big steps in innovation right at the start. However, unlike the classification 2 innovators, they did not take big steps back, but refined the implications of the procedures in subsequent lesson series. In the first lesson series, these teachers also experimented directly with the maximum design (score 3) for at least two procedures of the new teaching approach and therefore did not stay close to their regular teaching practices. Then, in later lesson series, they took steps of 1 in the application of the procedures. These teachers had goals that corresponded with the goals of the innovation among other goals of their own, and were satisfied with their realization (except for teacher G due to particular circumstances). All teachers were satisfied with the new teaching approach overall, strongly intended to apply parts of the teaching approach in future and reported in the next school year that they had indeed continued to use one or more procedures of the teaching approach in their teaching.

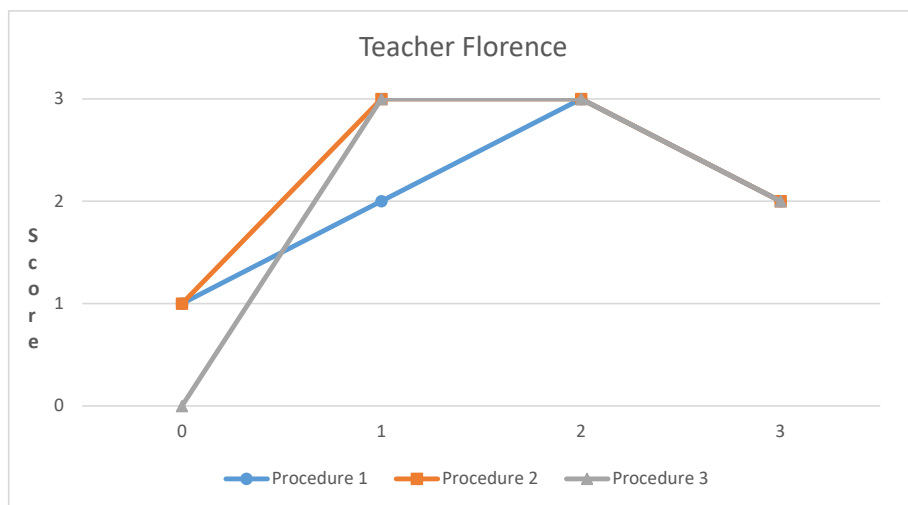


Figure 12: Example of classification 3, innovators who refine: learning route of teacher Florence (F)

Case description: teacher Florence

In Florence's regular teaching practice, lessons were shaped from receptive to productive skills. There was no explicit link between the speaking activities and the other components in the lesson series (procedure 1, score 1). Moreover, there were only a few guided speaking activities on which Florence gave feedback while passing by (procedure 3, score 0) and activities for improvement were the same for all students (procedure 2, score 1).

As the most important positive aspects of her regular teaching practice, Florence mentioned that the speaking activities bring alternation and motivation in the lessons, but she was dissatisfied with the limited amount of speaking activities and the time needed to design and carry them out (not directly related to one of the procedures of the innovation). In order to improve her current teaching practice in speaking skills, Florence intended to increase the alignment between lesson components and to build up the sequences of speaking activities (procedure 1). She wanted to design a lesson sequence which began with the final free speaking activity with self-evaluation, followed by guided speaking activities and improvement activities, and ending with another self-evaluation of the final free speaking activity (procedure 1). She also wanted to give the students more freedom of choice (procedure 2) and she wanted to improve the speaking activities by creating an information gap, and adding exercises aimed at communicative strategies (other goals). Regarding feedback, Florence wanted to give more

feedback on affective factors, and more feedback in communicative contexts with time to recap (procedure 3) and to discover what exactly ensures students' self-efficacy (other goal).

Florence carried out three SpeakTeach lesson series in the third year of havo. She experimented with the maximum design (score 3) of the procedures of the teaching method, such as the final activity of speaking with self-evaluation at the beginning of the lesson series followed by improving the performance (procedure 1). She gave her students freedom of choice in working method and type of activities (procedure 2) and she used a broad feedback repertoire. The feedback was tailored to the students' questions and their self-evaluations (procedure 3). This was a major change compared to her regular teaching practice. In the process of experimenting with the SpeakTeach method, she took a step back to shared steering at a certain point (procedure 2, from 1 to 3, to 3 and back to 2) in order to achieve a good structure and alignment with the final speaking objective in line with her intentions (procedure 1).

As the most important positive aspect of the SpeakTeach lessons, Florence mentioned efficiency and the demand-driven way of working, based on the involvement of the student (procedure 2). In accordance with her intentions and the design of the SpeakTeach lessons, Florence became much more satisfied with the number and type of speaking activities (other goals) and the structure and alignment in the speaking activities in the SpeakTeach lessons (procedure 1). According to Florence, the purpose of the speaking activities and alignment with other components of the lesson series were not clear in her current teaching practice, but by applying the SpeakTeach method the purpose and the alignment of the speaking activities and exercises became clear and the students saw their usefulness. Florence also became more satisfied with the working methods: much more variety through the activities designed to improve the speaking activity and students worked well because they had freedom of choice in working method and learning activities (procedure 2). The teacher was also satisfied with the students' performance and development. Note that the teacher became more negative about her own feedback repertoire (procedure 3). She was initially satisfied, but after the intervention she saw points for improvement. The teacher wanted to give more feedback and more consciously. She was satisfied, however, that students were working more and more independently and as a result she had more time to give feedback on speaking performance and there was time to recap.

After these three SpeakTeach lesson series, Florence developed further to maximum SpeakTeach applications (sores 3). During the intervention period, she had already applied the teaching approach in other classes and provided additional data to the researcher (the author). In the data from these other classes, the author and an assessor (p. 12) saw that Florence was working in an increasingly student-driven way (procedure 2). She had even made procedure 1 more adaptive than the maximal application of this procedure in the original teaching method; she let the students choose the final speaking activity themselves at the beginning of the lesson series (with self-evaluation in order to improve the activity). In the new school year, she reported that she was still applying the SpeakTeach method.

Classification 4. Quitter (n=1, See Table 5.1, teacher K)

One teacher fell outside the other three classifications, because he did not innovate on one of the procedures and was not satisfied with his failure to achieve his goal with regard to this procedure. This teacher also reported that he did not apply parts of the new teaching approach. For these reasons, this classification was called *quitter*.

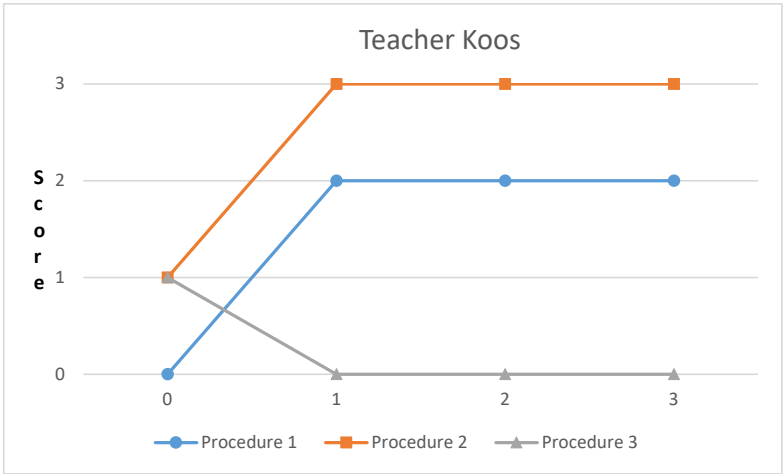


Figure 13: Example of classification 4, Quitter: learning route of teacher Koos (K)

Case description: teacher Koos

In his regular teaching practice, Koos gave classroom feedback and feedback on individuals' speaking performances while walking around the class. For some speaking activities he gave individual feedback for a grade (procedure 3, score 1). There was no build-up in sequences of speaking activities and no explicit alignment with exercises for improvement of the speaking

performance (procedure 1, score 0), but there were exercises (chunks, idiom) to prepare the speaking activities which were the same for all students (procedure 2, score 1). Koos was satisfied with the flexibility and time-saving routines in his regular teaching practice in speaking skills but dissatisfied with the materials and the need to search for suitable material (not related to the innovation). Koos intended to improve the type of speaking activities (other goal), to offer more challenging speaking activities (other goal) and to design alignment in speaking activities and appropriate improvement activities (procedure 1). In addition to teacher feedback, Koos also wanted to try out peer feedback, to give more feedback on speaking performances and to apply different feedback strategies attuned to learners' needs (procedure 3).

Koos performed a SpeakTeach lesson series in year 5 havo, in which the self-evaluation was done several times with plans for improvement and improvement activities leading to the final speaking activity (procedure 1 from score 0 to 2). This created an aligned set of learning activities and an iterative process of improvement. Compared to his regular teaching approach, Koos had added more speaking activities and improvement activities to achieve the speaking goal (where there had only been one speaking activity at first) so that there was a structure and more alignment. Another change from his regular teaching practice was that he allowed the students to work in a fully student-led way (procedure 2 from score 1 to 3). Koos did not give any feedback due to organizational and technical reasons (procedure 3). He was not very satisfied with his own implementation of the procedure designed to reach the intended goals, because he believed that he should have paid even more attention to the structure of the speaking activities (procedure 1) and that he had done too little about giving feedback and trying out peer feedback (procedure 3). However, Koos was satisfied that he had made the speaking activities more challenging (own goal) and with what he had learned from feedback strategies (procedure 3) and the organization of steering (procedure 2): "Students' steering was good, although students can abuse the freedom."

The teacher seemed to find SpeakTeach desirable but its implementation more difficult. Koos was more satisfied with the freedom of choice (procedure 2), feedback (procedure 3) and improvement activities in SpeakTeach lessons than in his regular teaching. As strong points of SpeakTeach Koos reported that "the method encourages the students to think more about what they are doing and how. They are more involved and that can have a motivating effect." Koos thought it was a disadvantage to have to use the technique for the recordings and

evaluations of the speaking performances. He was open to using parts of the SpeakTeach method in the future but did not yet know how and with which groups. In the subsequent school year, Koos reported that he had not applied any parts of the Speak-Teach method.

5.6 Conclusions and discussion

It is important for teachers' professional development to take both their goals and their current teaching practice into account (e.g. Kennedy, 2016a; 2016b; Janssen et al., 2013). This is not, however, self-evident when a professional development trajectory is aimed at learning to design and execute lessons according to a specific innovative approach. Innovative approaches are often formulated in abstract ideas and goals. As a result, it is often not clear to teachers how they can efficiently transform the innovation into concrete classroom activities that fit in with existing classroom demands and their other goals (Doyle & Ponder, 1977; Janssen, Westbroek, Doyle & Van Driel, 2013; Janssen et al., 2015; Kennedy, 2016b).

For this reason, this chapter focused on the question of how, in the context of a specific innovation, adaptive learning routes can be realized in which teachers can achieve both the goals of the innovation and their own objectives in a way that fits in with and builds on what they are already doing in class. To this end, two interrelated design principles, namely modularity and self-evaluation by teachers, were used to develop an adaptive professional development trajectory. The professional development trajectory in this study aimed to support foreign language teachers to expand their repertoire of adaptive feedback and differentiated activities for improvement in their regular teaching of speaking skills, because research has shown that adaptive feedback is desirable, but not common in teaching (Lyster et al., 2013; Yoshida, 2008; Gass & Mackey, 2012), due to practical constraints of the classroom ecology (Chapter 3; Corda, Koenraad & Visser, 2012; Fasoglio, 2015).

The aim of this study was to determine the extent to which the professional development trajectory, in the context of the innovation, was actually found to be adaptive according to teachers themselves. We also set out to investigate whether teachers achieved the goals of the innovation and their other goals to their own satisfaction by following the learning routes they had chosen themselves, and whether they intended to apply all or parts of the innovation in the future.

The results show that all of the teachers had goals in line with the goals of the innovation and that almost all of them also had other goals. In general, they were satisfied

with the achievement of both the goals of the innovation and their own other goals. These findings are unique because the implementation of innovations often conflicts with teachers' other goals and therefore often fails (Kennedy, 2016; Janssen et al, 2013). This study shows that the principles of modularity and self-evaluation in *SpeakTeach* made it possible to achieve both types of goals, those related to the innovation and teachers' other goals, at the same time. This was confirmed by the finding that nearly all of the teachers had firm intentions to continue to use the method in the future and reported after a year that they were indeed still using parts of it.

All of the participants reported that they had succeeded in expanding their teaching repertoire, except for one who did not implement one of the three procedures. The results demonstrate that the adaptive professional development trajectory allowed teachers to choose their own learning route in the context of the innovation. Teachers appeared to develop repertoire in different ways. First of all, some teachers, in the model of Bransford et al. (2005), stayed close to the dimension of routines, and built stepwise on routines from their regular teaching practice, inserting the procedures progressively. We called them *builders*. However, most teachers immediately took big steps. A number of them then took big steps back. We classified this group of teachers as *the innovators with big steps back*. These teachers were not always very satisfied with the realization of all their goals and seemed to be experimenting a lot to find an application that suited them. This did not mean that they were dissatisfied; over all they were very satisfied with the new teaching approach. We also distinguished a third classification: *innovators who refined*. Like the other group of innovators, they immediately experimented with the maximal design of the procedures. However, in contrast with the innovators who took big steps back after early experimentation, they consolidated and refined the application of the procedures. These teachers were generally satisfied with the achievement of their goals and the new teaching approach. In conclusion, three different routes were identified which were all successful in implementing the innovative teaching approach and in achieving the teachers' goals. We therefore conclude that teachers differ in how they expand their repertoires and that the professional development trajectory in this study was adaptive enough to do justice to these differences, allowing teachers to follow their own learning routes. This means that the model of Bransford et al. (2005) was not only used as a framework for determining whether or not teachers were

developing on both dimensions of routines and innovations, but the model was also used in this study to explore and describe several types of learning routes.

Two important limitations of our research have to be mentioned. The first is the fact that this study relied on self-reporting by teachers. This was because we were specifically interested in teachers' goals and their *perceptions* of the achievement of their goals. Moreover, the implementation of the procedures of the teaching approach was also based on teachers' data about their design of the lesson series. More objective or quasi-objective outcome measures, such as assessments, observations and student test scores, could be taken into account in future research. In a further study teachers' *behaviour* could be observed using a standardized observation form to find out how they implemented the teaching approach in their lessons. Teachers' perceptions of achievement of goals could be compared to more objective standards such as learners' outcomes.

A second limitation was the duration of the professional development trajectory. Although it lasted longer than the trajectories examined by many other studies on teachers' professional development (Borko et al., 2010; Van Veen et al., 2011), – in total seven months (three months of preparation in meetings and four months of implementation in the classroom) – and the teachers were asked whether they were still using the method a year later, research into learning routes requires even longer monitoring in order to be able to map developments in teaching repertoires. Moreover, the data were again obtained from self-reporting. It would be interesting to observe and follow the teachers in how they continued to use the method in practice and to investigate whether the patterns in learning routes persisted or changed over the course of time.

Implications for Teacher Education and Professional Development

It is generally agreed that teachers' professional development should be connected to teaching practice, focus on students' thinking and learning, stimulate active and collaborative learning and use modelling for innovative practices (Borko et al., 2010). Increasingly, an adaptive approach to professional development is being endorsed which attunes to the teachers' *goals* and the *current situation* in which they are working (Kennedy, 2016a; 2016b; Janssen, Westbroek, Doyle, & Van Driel, 2013), but that is difficult to realize in the context of an innovation. In their model of adaptive expertise, Bransford and Darling-Hammond (2005; 2007) suggest a stepwise progression that balances the development of routines and

innovation, but they do not discuss how such a learning route can be achieved and supported in a development trajectory.

This study proposed and tested two interrelated principles in order to create adaptive learning routes: modularity and self-evaluation by the teacher. These principles not only enabled teachers to relate an innovation to their current teaching practice, they also provided a way to implement the innovation. Kennedy (2016a) identified four pedagogies used to facilitate teachers to implement an innovation in their teaching practice, namely: providing prescriptions; providing strategies accompanied by a rationale that helps teachers understand when and why they should implement these strategies; providing insight; and presenting a body of knowledge. The approach in this study added a fifth pedagogy to the four distinguished by Kennedy; namely creating adaptive learning routes by means of modularity and self-evaluation in order to support teachers to implement an innovative teaching approach. Instead of developing an innovative teaching proposal in detailed prescriptions or more generic strategies, insights and knowledge base, the innovation is presented in recognizable building blocks –or modules of lesson segments – similar to the building blocks that teachers already use. This use of modularity allowed targeted self-evaluation and enabled teachers to see differences between their current teaching practice and the desired teaching practice. By recombining and adapting new and existing building blocks, teachers were able to expand their existing teaching practice. This study showed that an adaptive professional development trajectory based on modularity and teacher self-evaluation enabled teachers to follow their own learning routes working toward their own goals, which fit into their teaching practice, but were also aligned with the goals of the innovation.

Chapter 6

General conclusions and discussion

6.1 Aims and research questions

Guiding students to become autonomous learners in learning to speak foreign languages is an important goal in foreign language education (Holec, 1981; Lee, 1998; Little, Dam & Legenhausen, 2017), but difficult to realize in regular classroom settings in secondary schools. The objective of this thesis was to design and evaluate an approach for self-regulated learning of speaking skills that is adaptive for secondary school students and practical for teachers in their regular teaching practice. The main research question addressed in this thesis was therefore: What are the design principles for an approach for self-regulated learning of speaking skills in a foreign language that is adaptive for students and practical for teachers?

In order to answer this main question, a pilot study was conducted into a possible adaptive approach in which self-evaluation by students, one of the design principles of the adaptive approach, was tested in the classroom (Chapter 2). Then on the basis of the pilot and further literature, the adaptive approach was developed and tested in the classroom. Chapter 3 reported on the development of a practical adaptive approach for teaching speaking skills in a foreign language, and the evaluation of its practicality. Chapter 4 reported research into the adaptivity of the approach for students. Chapter 5 focused on another aspect of practicality, i.e. the investigation of how teachers could be supported to expand their teaching repertoire with variants of the adaptive approach and could follow individual learning routes. The main findings per chapter are summarized below (6.2) and followed by answering the main research question (6.3). Theoretical implications, limitations and suggestions for further research are discussed in 6.4. Finally, in 6.5, practical implications are specified.

6.2 Main findings per chapter

Main findings chapter 2

The pilot study in chapter 2 reported on self-evaluation by students as a design principle for a possible adaptive and practical approach for speaking skills in a foreign language, which was based on a review of the research literature. The study explored whether the students' self-evaluations, each containing a diagnosis of a recording of their own speaking performance, a plan for improvement, desired working format or request for teacher's assistance, could help teachers to gain insight into individual students' needs regarding speaking skills and to adapt their intended feedback to meet these needs. The results of this pilot study showed that the

use of self-evaluation by the students to help teachers adapt their feedback was promising, because teachers reported that their students' self-evaluations increased their understanding of the students' learning process in speaking skills and they modified their intended feedback after seeing the self-evaluations in order to meet individual students' needs. Furthermore, teachers also considered the self-evaluation process to be feasible and practical in teaching practice.

This pilot study gave insight into the first design principle, self-evaluation by the student. In the second phase of the research, based on reflection on the results of the pilot study and on theoretical research, other design principles to make the approach adaptive for students and practical for teachers were then elaborated and tested in the classroom. To what extent the approach is indeed practical for teachers has been reported in chapters 3 and 5. Students' experience of adaptivity is reported in chapter 4.

Main findings chapter 3

Chapter 3 reported on the development and evaluation of a practical adaptive approach to teaching speaking skills in a foreign language. The teaching approach to be developed aimed at providing both students and teachers with insight into the learning process so that feedback and improvement activities could be tailored to students' learning needs, as well as providing opportunities for students to improve their speaking performance in an aligned set of learning activities. Based on insights from research into bounded rational and ecological rational decision-making (Todd & Gigerenzer, 2012) and practicality theory (Doyle & Ponder, 1977; Janssen et al., 2013), a *Bridging Model* was used to develop the practical and adaptive teaching approach. Following this *Bridging Model* (Janssen, Westbroek, Doyle, & Van Driel, 2013; Janssen, Westbroek & Doyle, 2015), the regular teaching practice in speaking skills was first broken down into building blocks. Building blocks are recognizable lesson segments, in this case of regular language lesson series, such as input (reading texts or listening fragments), exercises (for instance focused on grammar or vocabulary), speaking activities and feedback. The next step was to design principles aimed at achieving the goals of the new teaching approach. These principles had to allow the building blocks to be incorporated into the existing teaching practice in various ways so that the teachers could adapt the teaching approach to their own teaching practice. Three practical design principles were formulated to achieve the

objectives of the teaching approach: 1) add a self-evaluation by the student to a speaking activity; then on the basis of this self-evaluation, provide 2) activities for improvement and differentiation; and 3) adaptive feedback. After that the students do the same or a similar speaking activity again with self-evaluation. This can be repeated in an iterative learning process. The adaptive approach developed with the three design principles was called the *SpeakTeach* method.

The study reported on the practicality of the developed adaptive teaching approach. The research questions of this study focused on how the three design principles of the adaptive teaching approach were implemented by the participating teachers, what considerations they took into account, and to what extent they perceived the adaptive teaching approach as practical and resolving their problems with regard to teaching speaking skills.

The results showed that in almost all lesson series in which the teachers applied the new teaching approach, the essence of the teaching approach was retained. All three design principles were implemented by the teachers in their teaching practice and adaptive considerations played a role, in line with the purpose of the teaching approach. Teachers used the three design principles to produce many different variants of the *SpeakTeach* lessons in order to tailor the teaching approach to their students and to suit their own teaching style and practices. Thus, the flexibility of the building blocks and design principles was indeed utilized.

Moreover, teachers perceived the approach as practical, more desirable than their regular teaching practice and not more difficult to implement than their regular teaching practice. Class size, organization, keeping order and keeping students actively engaged were practical disadvantages mentioned for their regular teaching practice, but not mentioned for the new approach. Insight into the learning process and being able to tailor to students' needs were mentioned as advantages.

Main findings chapter 4

In chapter 4 the self-evaluation procedure of the developed teaching approach (the *SpeakTeach* method in chapter 3) was approached from the perspective of the students. It addressed the question of whether self-evaluation can be an adaptive resource for students at secondary schools to learn to improve their speaking skills in foreign languages and to improve their self-regulation of their learning. In a quasi-experimental study, we investigated

to what extent changes occurred in student self-regulation in improving their own speaking skills after four iterations of the self-evaluation procedure, and to what extent the students perceived the self-evaluation procedure as motivating and the received feedback and support as adaptive to their needs.

The results of this study showed that during the self-evaluation procedure students' perceptions of their learning needs did indeed change. An important goal of the self-evaluation procedure was to support secondary school students to become more and more independent in fulfilling all of the different parts of the process of self-regulation. It was found that the perceived need for teachers' assistance did indeed decrease and the preference for independence increased over the course of a number of iterations of the self-evaluation procedure. Moreover, shifts in diagnoses and foci of plans were also found. It seemed that students expanded the focus of their diagnoses and plans. The study also showed that students perceived the self-evaluation procedure as motivating. Speaking anxiety did not decrease.

When asked in a post-test about adaptivity of feedback and improvement activities, students in the experimental group generally found the activities during speaking lessons tailored to their needs to the same extent as the control group, and they found feedback less tailored to their needs compared to the control group. However, when asked about a specific self-evaluation cycle during the intervention, most students of the experimental group perceived the feedback and improvement activities as adaptive. It can be concluded from this that the lessons in speaking skills over a whole period had not been considered by the students of the experimental group as more adaptive than usual, but the specific periods of working on the self-evaluation procedure had been experienced by them as adaptive.

Main findings chapter 5

This chapter also examined the practicality of the adaptive teaching approach, but from the perspective of individual teachers with the focus on their professional development. The question was posed as to how teachers can be supported to gradually expand their teaching repertoire with variants of the *SpeakTeach* method. For teachers' professional development it is important to take both teachers' goals and their current teaching practice into account. The ecology of the classroom demands that teachers realize several goals simultaneously in limited time and with limited resources. A new teaching approach has to fit in with these

contextual constraints and the personal goals of the teachers. Furthermore, it has been suggested that reforms should build on existing teaching practice and provide steps which enable the incorporation of the new teaching proposal (e.g. Bransford, Derry, Berliner & Hammerness, 2005). In this study, two interrelated principles were used to realize this: modularity and self-evaluation by the teacher. In order to see differences between the current teaching practice and the desired innovative teaching practice, both were represented in similar modules or building blocks (modularity) and evaluated by the teacher (self-evaluation). By recombining these existing building blocks in accordance with a number of procedures, different learning trajectories could be followed by the teachers to implement an innovative teaching practice. Since teachers differ in their circumstances and their goals, there would be a need for adaptive learning routes.

In this study, we investigated whether, within a development trajectory based on modularity and self-evaluation by teachers, adaptive learning routes could be realized in which teachers could achieve both the goals of the innovation (the adaptive teaching approach, the *SpeakTeach* method) and their own objectives in a way that fitted in with and built on what they were already doing in their teaching.

The results showed that almost all teachers (10 out of 11) succeeded in expanding their teaching repertoire in line with the goals of the innovation (the *SpeakTeach* method) and followed adaptive learning routes to their own satisfaction. We distinguished three different successful learning routes. First there were the *builders* who stayed close to their regular teaching practice and built stepwise on their routines towards a new teaching practice. *Innovators with big steps back* experimented with new practices at the beginning and then took big steps back. A related group, *innovators who refined*, also experimented directly with new practices but did not take big steps back afterwards. Instead they consolidated and refined the application of the procedures of the new teaching approach (the *SpeakTeach* method).

In conclusion, the professional development based on modularity and self-evaluation by the teachers enabled all teachers except one to follow their own learning routes in line with their goals and in line with their teaching practice and at the same time move in the direction of the intended innovation.

6.3 Design principles of the adaptive and practical approach

Considering the findings of all the studies together, in response to the central research question, the following design principles can be deducted for an adaptive approach for students to learn to self-regulate their speaking skills which is practical for teachers. They have been explained, underpinned and researched in this dissertation.

Design principles of the approach related to adaptivity to students' learning needs

In order to make the teaching approach for self-regulated learning of speaking skills adaptive for students, the approach contained the following design principles:

1. Add a self-evaluation by the student to a speaking activity

The self-evaluation consists of a diagnosis by the student of a recording of the own speaking performance, a plan for improvement drawn up by the student and a desired working format or request for teacher's assistance.

2. Provide activities for improvement and differentiation

On the basis of the self-evaluation with a plan for improvement produced by the student, the teacher offers activities for improvement in follow-up lessons or as homework. The improvement plans provide opportunities to meet the students' learning needs by differentiating according to type and number of improvement activities, working format and steering in the lessons.

3. Provide adaptive feedback

The ultimate goal of the approach is self-regulation and therefore the choice of focus, type or strategy of feedback has to be varied depending on the learner's development. The student's self-evaluation, plan for improvement, whether there is a request for teacher's assistance and any recording of the speaking performance, provide information for the teacher to tailor the feedback.

Furthermore, it is important that, after executing the plan for improvement, students redo the same or a similar speaking activity with self-evaluation to experience whether they have

progressed and to put into practice what they have learned. A new cycle of monitoring and improving can then begin (repetition of principles 1 to 3).

Design principles related to the practicality for teachers and the associated learning of the teachers

The design principles regarding practicality were twofold. First, the design principles for practicality for teachers related to the representation of the adaptive teaching approach for students' self-regulated learning of speaking skills. Second, they related to a professional development trajectory which enabled teachers to expand their teaching repertoire by explicitly building on what they already do and value.

In order to make the teaching approach practical, we drew on the *Bridging Model* (Janssen, Westbroek, Doyle & Van Driel, 2013; Janssen et al., 2015) which contains the design principle of modularity. The design principle of self-evaluation by the teacher was added to the *Bridging Model*. The interrelated design principles of modularity and self-evaluation allowed teachers to gradually adapt the approach to and integrate it into their teaching practice in a flexible manner.

1. Use modularity for representing the regular and the new teaching approach

Use modularity to parse the current teaching practice and the desired innovative teaching practice into similar modules or building blocks. A building block is a recognizable lesson segment of a regular language lesson series. By recombining these existing building blocks in accordance with a number of guidelines, teachers can take advantage of the flexibility of the design principles to adapt the approach to their own teaching.

2. Start a professional development trajectory with self-evaluation by the teacher of the current teaching practice and the innovative teaching practice

Modularity facilitates targeted self-evaluation by representing the current teaching practice and the innovation in similar building blocks of the same level of description. On the basis of the teachers' self-evaluations of the existing and their desired situations, the teachers formulate goals and intentions for improvement and chose how, in which steps, they integrate the building blocks of the innovation (the new teaching approach) into their teaching practice.

Furthermore, teachers' self-evaluations enable tailoring of a professional development trajectory to their needs as it provides information for both the teachers themselves and the facilitator of the professional development trajectory on what the teachers do, experience, wish to achieve and what tailored input and activities are needed.

Hence, the principle of self-evaluation was needed on two levels in this teaching approach: on the level of the students (self-evaluation by the students of their own speaking performance) as a design principle to make the teaching approach adaptive for the students; and on the level of the teachers (self-evaluation by the teachers of their own teaching practice) as a design principle to make the teaching approach practical for the teachers and the professional development trajectory adaptive for the teachers.

6.4 Theoretical implications, limitations and directions for future research

The aim of the research in this dissertation was to design and evaluate a practical adaptive teaching approach for self-regulated learning of speaking skills. In this section theoretical implications, limitations and directions for future research will be discussed first from the perspective of students and then from the perspective of teachers.

6.4.1 Theoretical implications for research on students

This study aimed at self-regulation. As in socio-cultural studies, a cyclical self-regulatory process is assumed. In previous research, the case has also been made for an iterative learning process in which learners gradually become more independent in self-regulating (e.g. Little et al., 2017). Other researchers have proposed a cycle of reflection and task-repetition in order to improve speaking skills (Goh & Burns, 2012; Goh, 2017). This study contributes to the development of knowledge about guiding students to become autonomous learners in learning to speak foreign languages, because it adds concrete design principles intended to facilitate such an iterative learning process, namely: adding students' self-evaluation of a recording of their own speaking performance, providing adaptive feedback and providing activities for improvement. The results in chapter 4 showed that students could actually go through this process of self-regulation more independently and that the focus in their evaluations and plans changed.

A limitation of the study is that it focused on self-regulation by a heterogeneous group of secondary school students. Further research should be carried out in order to identify any differences in terms of year and language. It might be that lower level students differ from higher classes in meta-cognitive skills and therefore differ in, for instance, degree of independence and need for assistance during the self-evaluation-procedure.

One of the concrete design principles to facilitate the self-regulatory process in the adaptive teaching approach was students' self-evaluation of their own recorded speaking performance. A theoretical contribution of this study is that it approaches self-evaluation differently than many other studies. Much research on students' self-assessment has questioned the accuracy of self-assessments. Low correlations have been frequently found between students' self-assessments and tests or other measures considered to be valid and reliable (Phoener, 2012: 611; Ross, 1998). In contrast, this study did not focus on the accuracy of students' assessments, but on students' perceived needs during a procedure which aimed at learning to self-regulate their own speaking skills. The self-evaluation procedure in this study therefore had a different focus from the more common self-assessments in a number of respects.

First, the self-evaluation addressed a specific speaking performance and not the student's speaking skills in general.

Second, in contrast to much previous research (e.g. Brantmeier, Vanderplank & Strubbe, 2012; Phoener, 2012; Ross, 1998), the self-evaluation did not use external standards, but a self-evaluation instrument containing non-normative criteria to get the students to reflect on various aspects of their speaking performance (message, vocabulary, grammar, pronunciation, fluency) and on areas for improvement and positive points using their own internal standards. On the one hand, the intention was to get students to think about their own performance, their own goals, what was needed and how to attain new goals (instead of ranking their performance to an external standard). On the other hand, these students' subjective evaluations provided insights for teachers about their current level and degree of self-regulation.

Third, many existing approaches to the use of self-assessment focus only on diagnosis of performance, whereas in this procedure students also produced a plan for improvement and stated what help they needed. Information for the teacher to adapt their teaching was therefore not only based on students' diagnoses of their speaking performance as in other

formative uses (e.g. Black & Wiliam, 1998; Nicol & Macfarlane-Dick, 2006), but also on students' improvement plans. The self-evaluation by the student was not just an instrument for diagnosis in this study, it was part of a whole evaluation procedure containing a learning pathway to improve the initial speaking performance. The aim of using self-evaluation with improvement plan in the adaptive approach was not only to provide information for the teacher to tailor their teaching, but to stimulate the students themselves to design and implement their own learning pathways in an iterative learning process.

The results in chapter 4 showed that students did indeed ask for less assistance from the teacher in later cycles and that the focus in diagnoses and plans changed. A limitation of the study was that the data were based on the estimates of what the students themselves thought they needed. It cannot therefore be concluded that the changes in learning needs that we found mean that the students had learned to assess themselves better and make better plans. As discussed in chapter 4, much research has shown that foreign language learners find it difficult to assess themselves (Blanche, 1988; Poehner, 2012; Ross, 1998). Further research should therefore follow students for a longer period of time and compare their perceptions with external standards in order to investigate how much progress they make in self-assessing their speaking performances. In addition, we did not measure how much the students' speaking skills had actually improved. Further research should aim to show whether, over time, the self-evaluation procedure does lead to students speaking better in the foreign language than students who do not follow the self-evaluation procedure.

In addition to student's self-evaluation, adaptive feedback was one of the design principles of the adaptive and practical teaching approach. With regard to the theoretical contribution in the field of feedback, this study focused on how feedback and activities can be tailored in complex classroom settings. In accordance with socio-cultural approaches, this study assumed that feedback should be tailored to the development of the students (Lantolf, Thorne & Poehner, 2015; Aljaafreh & Lantolf, 1994; Poehner & Lantolf, 2005). Socio-cultural studies often take place outside the classroom in one-to-one situations (e.g. Poehner, 2012). However, this study aimed at an adaptive approach in regular classroom situations. In order to provide adaptive feedback in classroom settings, teachers need to use a broad repertoire of feedback types and strategies to respond to their student's individual needs and the instructional context (Lyster, Saito & Sato 2013). For this reason, the intervention in this study had a broader scope than much research on feedback in the field of second language

acquisition which has often investigated the effectiveness of specific feedback types or strategies (Lyster et al., 2013).

The findings regarding adaptivity of feedback and activities for improvement are inconclusive. On the one hand, the pre- and post-measurements showed no difference on students' perception of adaptivity of improvement activities between the experimental and the control groups (Chapter 4) but students in the experimental group found feedback to be less adaptive than students in the control group. On the other hand, the intermediate measurements which were carried out each time directly after the accomplishment of a specific cycle of the self-evaluation procedure did indicate that the students of the experimental group found both the feedback and activities to be adaptive. Possible explanations for these differences in findings relate to the research instruments, the students and the teachers. Regarding the instruments, the intermediate measurements focused on a specific cycle of the self-evaluation procedure and therefore may have probed the perception of adaptivity more precisely than the pre- and post-measurements which addressed a whole period of time and lessons in speaking skills in general. Another explanation relates to a change among the students of the experimental group. They might have become more critical through the self-evaluation procedure, by thinking about whether they had got what they needed. High expectations could have been raised among the students of the experimental group with regard to adaptivity of feedback and follow-up activities because they were asked to indicate their needs in the self-evaluations, while this was not asked of those in the control group. Finally, another explanation could be that the teachers from the experimental group could indeed have given more adaptive feedback but not enough. There could have been a number of reasons for this, for example because of inexperience and need for habituation to the new way of teaching, or because they lacked the time for adequate analysis of the self-evaluations and for devising adaptive feedback and learning activities. Follow-up research could seek explanations by, for example, questioning students and comparing students' preferences with regard to feedback and activities with observations of feedback and activities actually given.

6.4.2 Theoretical implications for research on teaching

This dissertation also has theoretical implications for research on teaching. In theories about implementation of educational innovations and teacher professional development, little

attention has been paid to how new educational practices can be incorporated into the complexity of the existing teaching practice (Janssen et al., 2015; Kennedy, 2016b). As a result, important aspects of reforms can be lost during their implementation (Fullan, 2007; Spillane, Reiser & Reimer, 2002). Because of perceived practical obstacles, teachers often fail to adopt reforms or alter them to such an extent that their essence is lost (Janssen et al., 2013). The results in chapter 3, however, showed that in this study nearly all teachers (12 out of 13) integrated all three design principles of the new adaptive approach into their teaching practice, found the approach significantly more desirable than their regular teaching practice and considered the adaptive approach no more difficult to implement than their regular teaching practice. These findings are unusual because teachers generally find it difficult to tailor lessons to their students' learning needs in speaking skills (Corda, Koenraad & Visser, 2012; Hoffman & Duffy, 2016). This was achieved by basing the *SpeakTeach* method on the *Bridging Model* (Janssen et al., 2013; Janssen et al., 2015), a methodology developed to make education reforms practicable by using the principle of modularity (Holland, 2012; Janssen et al., 2015: 139). In this modular approach a reform is described as far as possible in terms of existing segments, or building blocks, of regular teaching practice.

The principle of modularity of the *Bridging Model* has already been successfully applied in previous research to make innovations practical: for a practical approach for open-inquiry labs (Janssen, Westbroek & Doyle, 2014a); for the concept-context approach (Dam, Janssen, Van Driel, 2013); for guided discovery learning (Janssen, Westbroek, Doyle, Van Driel, 2014b); and for whole-task-first teaching (Janssen, Hulshof & Van Veen, 2016). This study added a supplementary element: self-evaluation. This element was added on two levels: on the level of the students and on the level of the teachers. This is explained in more detail below and related to relevant research areas.

Regarding the self-evaluation by the students, the results in chapter 3 showed that the addition of the building block of self-evaluation by the students contributed to the practicality for teachers. In addition, the self-evaluations gave teachers deeper insight into the learning processes of all of their students which helped them to tailor feedback. This opportunity was created by students working independently and actively during the self-evaluation procedure giving teachers time to offer adaptive feedback and support. Moreover, since the approach took existing learning activities from regular teaching and incorporated them into a coherent body of learning activities around a speaking goal thereby increasing alignment in the lessons,

the teachers were able to apply the design principles with the available means and in the available time. The use of modularity meant that there was no prescribed *SpeakTeach* method but opportunities to use the core of the approach, the three design principles, in a variety of ways. The results showed that 12 of the 13 teachers made full use of those opportunities for variation in order to tailor their teaching to their students. They used the three design principles to produce many different variants of *SpeakTeach* lessons.

It should be noted with regard to these findings that the analyses in chapters 3 and 5, which investigated the extent to which teachers implemented the design principles of the adaptive approach, were based on teachers' data about their own design of the lesson series. In further research, teachers' behaviour could be observed to find out how they implemented the teaching approach in their lessons. Furthermore, which feedback and activities the students actually received to improve their speaking performances was not investigated. Follow-up research examining teachers' choices regarding the kind of feedback and the concrete provision of learning activities on the basis of the students' plans, would provide more insight into how teachers tailor their feedback and activities to learners' needs. In line with this, it would be interesting to investigate how to get the iterative process of self-evaluation followed by feedback and improvement activities to bring about an increasingly higher level of attainment of the speaking goals.

On the level of teachers, the principle of teacher self-evaluation was added to the *Bridging Model* in order to make the teachers' professional development trajectory adaptive to their needs. An adaptive approach to professional development is being recommended which attunes to the *goals* and to the *current situation* of the teachers (Kennedy, 2016a; 2016b; Janssen et al., 2013), but it is acknowledged that it may be difficult to realize in the context of an innovation. In their model of adaptive expertise, Bransford and Darling Hammond (2005; 2007) suggest a stepwise progression that balances the development of routines and innovation, but they do not discuss how such a learning route can be achieved and supported in a development trajectory. Teacher self-evaluation lets the teachers reflect on the advantages and disadvantages of their existing teaching practice in relation to the proposed teaching approach. Reflection on practice has been widely accepted as an important ingredient in professional development trajectories (Marcos, Sanches & Tillema, 2011). However, the difference between this and other approaches is the combination of the design

principles of teacher's self-evaluation and modularity. Both existing and innovative teaching approaches were presented in the same modules. This use of modularity enabled targeted self-evaluation and helped the teachers to see how to integrate the new teaching approach into their existing teaching practice. We conclude that this was successful, because the results in chapters 3 and 5 showed that almost all teachers did indeed integrate the teaching approach into their teaching practice.

In addition, in the same way that self-evaluation by students was one of the design principles to make the teaching approach adaptive and practical, self-evaluation by the teachers enabled the professional development trajectory to be tailored to the teachers' needs as it provided information for both the teachers themselves and the facilitator of the professional development trajectory about what the teachers did, experienced, wished to achieve and which tailored input and activities were needed. Instead of prescribing a certain method and activities, the self-evaluation allowed facilitator and teacher to make decisions together about the necessary guidance, input and activities and what the next steps could be. Since teachers are likely to differ in their existing situations and their goals, the study assumed that there was a need for adaptive learning routes. The data from the study showed that the teachers did indeed start from different regular practices with regard to the three design principles of the adaptive teaching approach and did indeed have different goals or needs. We can conclude from the results that the principles of modularity in combination with teachers' self-evaluation enabled all the teachers except one to follow different adaptive learning routes. Adaptive because, despite the differences in starting points, they were generally satisfied with the achievement of both the goals of the innovation and with the achievement of their other goals.

It would be interesting to observe and follow the teachers to see how they continue to use the three design principles of the adaptive teaching approach in their practice and to investigate whether the patterns in learning routes persist or change over the course of time in order to refine theory about teacher professional development.

In conclusion, this study adds a new pedagogy designed to support teachers in their professional development. Kennedy (2016a) distinguished four pedagogies for teachers' professional development: providing prescriptions; providing strategies accompanied by a rationale that helps teachers understand when and why they should implement these strategies; providing insight and presenting a body of knowledge. The approach in this study

adds a fifth pedagogy, namely: creating adaptive learning routes by means of modularity and self-evaluation in order to support teachers to implement an innovative teaching approach.

6.5 Practical implications

Since we opted for design research which targets the development of solutions to a practical educational problem as well as theoretical development, the research inherently has practical implications. The main research question asked for design principles for an adaptive approach that is practical for teachers. The practicality for teachers was tested in this study (chapter 3). The results showed that teachers and students could apply the design principles of the adaptive teaching approach, the *SpeakTeach* method, and that teachers intended to continue to use all or parts of the teaching approach. In addition, although it was not part of the scope of the current research and data have not been collected, it can be mentioned that already after the publication of the first articles, several teachers indicated that they were inspired and used the design principles of the *SpeakTeach* method in their practice (see epilogue). That suggests that teachers are keen and able to apply the approach in their practice.

Important practical implications of the application of the *SpeakTeach* method in teaching are that it provides teachers with opportunities to have more information about the learning needs of their students through the self-evaluations and this enables them to tailor their feedback to the students making it less ad hoc. The adaptive teaching approach also provides students with the opportunity to improve their speaking performance and do the speaking activity again. No matter how much time a teacher allows to carry out a *SpeakTeach* round (a 10-minute session, an entire lesson or several lessons), inherent in the approach is that after the speaking activity an improvement activity is done and then the speaking activity is repeated. The adaptive approach means that speaking tasks are not isolated tasks in a lesson or series of lessons, as it creates alignment between learning objective, speaking activity and other learning activities. As a result, speaking skills gain a more prominent position in lesson series. There is more focus on speaking skills, as teachers of the experimental group reported (see chapter 3). An important result was that the adaptive teaching approach provided students with opportunities to be more active while practising speaking foreign languages, because the approach requires all students to speak, relisten, evaluate, improve and repeat. Since the approach consists of existing lesson segments, other lesson content and skills such as reading, listening, grammar and vocabulary are integrated in an aligned set of learning

activities that serve the purpose of improving speaking skills as they are used as activities for improvement.

Furthermore, the students' self-evaluations with plans for improvement provided opportunities for more adaptive learning routes of students and, therefore, more differentiation of activities, feedback, pace, working methods and variation in the degree of steering. How much will depend on the teacher, the students and their context. Since all kinds of variations are possible with the design principles of the adaptive teaching approach, the teachers can adapt the approach to their teaching practice. This will also mean that there will be a lot of different *SpeakTeach* practices as a result (see chapter 3).

Regarding implications for professional development trajectories, this study showed how trajectories can be tailored to teachers' needs by using the principles of modularity and teacher self-evaluation so that teachers can follow adaptive learning routes.

The practical adaptive approach in this study was developed for speaking skills. The approach might be applicable to other foreign language skills. First of all, its flexibility and the way the teaching approach is made practical using the steps of the *Bridging Model* could be adopted for other pedagogical reforms. In addition, the way it ensures that feedback and learning activities can be tailored to meet students' needs, namely through an iterative learning process of self-evaluations followed by feedback and tailored improvement activities, could also be applied to different subjects as well as to other components of the modern foreign languages curriculum such as listening skills. Students could for instance analyse what they have done well and what they have not done during a listening test, a reading test or in a self-written text, then make an improvement plan and take the test again.

The design principle of self-evaluation could also be used systematically in other subjects. In STEM subjects, for example, students could evaluate their own practical research. The self-evaluations should make students aware of the steps they have to take and at the same time they should give the teacher insight into what the students notice and understand of their learning process and what needs to be improved. This would allow the teacher not only to give feedback on the research done, but also to give feedback on the students' reflections and guide them on a regulatory level.

Epilogue

As a researcher, I obviously want to have contributed to the research-based knowledge in the domain of teaching foreign languages and professional development of teachers with this dissertation.

As a teacher educator I hoped that the research would actually lead to a contribution to solutions for experienced problems in teaching practice. The reactions that suggest that this has been successful are beyond expectation. Several teachers of foreign language already showed great interest in the *SpeakTeach* method. My estimation is that through workshops and lectures I have given at language conferences, good practice days, in ICLON professional development and in teacher education courses, more than 500 teachers have become acquainted with the adaptive teaching approach. In addition, publications in professional journals (Levende Talen Magazine) and scientific journals (Pedagogische Studiën and Levende Talen Tijdschrift) have contributed to the dissemination of knowledge about *SpeakTeach*. I know from many mails and stories from teachers that they have tried to apply the design principles in their teaching in secondary schools in the Netherlands. In addition to teachers, I know of three other groups who have expressed an interest. Some authors of teaching materials have reported that they have been inspired by publications about the research to design activities to improve speaking performances and to revise alignment between learning objective, speaking activity and other learning activities on the basis of the design principles of the adaptive teaching approach. Furthermore, language teacher educators at other universities have said that they discuss the design principles of the adaptive teaching approach in courses about teaching speaking skills. Finally, I receive a lot of requests from student teachers from our and other universities who want to do research on the use of the design principles of the *SpeakTeach* method in teaching practice.

As a final word, I am grateful to have been privileged to conduct this investigation and hope that this research would inspire teachers as well as researchers to make teaching practice more adaptive to learning needs and easier to organize.

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Appendix I

Student diagnosis or self-evaluation form

This student diagnosis or self-evaluation was provided in the form of an evaluation sheet for the pilot study (see chapter 2) and in the form of an app for mobile phones (see chapter 4).

Name:

Class:

level:

Subject:

A. Record your conversation in one go and send it to devrind@iclon.leidenuniv.nl

1. What did you have to be able to do in this conversation?

B. Analysis - Listen to the recording of your conversation and note:

2. What are you satisfied with?

Getting the message across (was it easy for another person to understand what you wanted to say?)	
Vocabulary	
Grammar, sentence structure	
Pronunciation	
Fluency	

3. What mistakes did you make?

Getting the message across (was it easy for another person to understand what you wanted to say?)	
Vocabulary	
Grammar, sentence structure	
Pronunciation	
Fluency	

4. How often did you listen to the recording of your conversation to answer questions 2 and 3?



C. Plan for improvement - After listening and analysing:

5. What do you want to improve and how?

	What can you learn and practise?	Tick two activities that you want to do	Say how you want to do them. Choose from: - on my own - with a classmate - help from teacher
Getting the message across (was it easy for another person to understand what you wanted to say?)	Think about what I want to say beforehand and make a note of handy words and phrases		
	Repeat this conversation a number of times		
Vocabulary	Extra exercises to practise vocabulary		
	Learn the vocabulary for the chapter again		
	Make and learn my own vocabulary list		
	Learn sentences (key phrases, useful phrases) again		
Grammar, sentence structure	Do more grammar exercises		
	Learn the grammar rules		
	Ask the teacher for further explanation about		
Pronunciation	Do more pronunciation exercises		
	Listen to and repeat words and/or sentences from the chapter		
Fluency	Repeat the conversation a number of times at normal speaking speed		

6. Use a colour to highlight what you want to do **first** in the table above.

D. After completing the improvement activities:

7. Improvement plan 1: completed / not completed

8. Improvement plan 2: completed / not completed

9. Did you have/were you given exercises and any other material that you needed?

Choose: √ (Yes) - ? (Don't know) - X (No)

10. Were you given the help you needed? (Not too much and not too little)

Choose: √ (Yes) - ? (Don't know) - X (No)

Appendix II

Student digital questionnaire

A. Questions about adaptivity⁷⁸

Learning to speak English⁹ in class

1. The exercises I have to do are perfect for me to improve my speaking in English
2. I get too little feedback that really helps me (feedback = information about what you are doing well and what you could improve in your English speaking)
3. The feedback and tips that I get (from the teacher or classmates) are just what I need to improve my English speaking
4. I think that I need to be given different exercises to improve my English speaking
5. I'm given exercises that match what I find difficult when speaking in English
6. I get the feedback or tips that I need to improve my English speaking (from the teacher or classmates)

B. Questions about motivation¹⁰

Learning to speak French in class by recording yourself speaking, evaluating your speech and doing exercises to improve

1. I enjoyed recording my own speech and listening back to it
2. I found it useful to record my own speech and listen back to it
3. I hope that in future lessons we will continue to record our own speech and listen back to it
4. I enjoyed evaluating for myself how I had done the speaking task (evaluating = saying what you were satisfied with and what you were not satisfied with)
5. I found it useful to evaluate for myself how I had done the speaking task
6. I found it quite easy to evaluate my own speaking

⁷ The questions were asked in the present tense in the pre-test, and in the past tense in the post-test. Example: "The exercises I had to do were perfect for me to improve my speaking in English."

⁸ Answers on a 7-point likert scale

⁹ Language underlined depends on language concerned

¹⁰ Answers on a 7-point likert scale

7. I hope that in future lessons we will continue to evaluate our own speaking
8. I enjoyed choosing activities to improve my speaking for myself
9. I found it useful to choose activities to improve my speaking for myself
10. I found it quite easy to choose activities to improve my speaking for myself
11. I hope that in future lessons we will continue to choose our own activities to improve our speaking
12. I enjoy getting help and exercises that I have chosen myself
13. I was given the exercises and help that I wanted to improve my speaking
14. I found the exercises and help that I was given useful for improving my speaking
15. I succeeded in improving my speaking with the exercises and help that I was given
16. I hope that in future lessons I will continue to get exercises and help that I choose for myself to improve my speaking
17. What do you think are the advantages of recording yourself speaking, evaluating your speech and choosing your own activities for improvement? (Give up to 4 advantages)
18. What do you think are the disadvantages of recording yourself speaking, evaluating your speech and choosing your own activities for improvement? (Give up to 4 disadvantages)

C. Questions about speaking anxiety¹¹

The Foreign Language Classroom Anxiety Scale (FLCAS) was adopted from Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132. For our study it was translated in Dutch and 'foreign language' had been substituted by the language which it concerned.

1. I never feel quite sure of myself when I am speaking in my foreign language class.
2. I don't worry about making mistakes in language class.
3. I tremble when I know that I'm going to be called on in language class.
4. It frightens me when I don't understand what the teacher is saying in the foreign language.
5. It wouldn't bother me at all to take more foreign language classes.
6. During language class, I find myself thinking about things that have nothing to do with the course.

¹¹ Answers on a 5-point likert scale

7. I keep thinking that the other students are better at languages than I am.
8. I am usually at ease during tests in my language class.
9. I start to panic when I have to speak without preparation in language class.
10. I worry about the consequences of failing my foreign language class.
11. I don't understand why some people get so upset over foreign language classes.
12. In language class, I can get so nervous I forget things I know.
13. It embarrasses me to volunteer answers in my language class.
14. I would not be nervous speaking the foreign language with native speakers.
15. I get upset when I don't understand what the teacher is correcting.
16. Even if I am well prepared for language class, I feel anxious about it.
17. I often feel like not going to my language class.
18. I feel confident when I speak in foreign language class.
19. I am afraid that my language teacher is ready to correct every mistake I make.
20. I can feel my heart pounding when I'm going to be called on in language class.
21. The more I study for a language test, the more confused I get.
22. I don't feel pressure to prepare very well for language class.
23. I always feel that the other students speak the foreign language better than I do.
24. I feel very self-conscious about speaking the foreign language in front of other students.
25. Language class moves so quickly I worry about getting left behind.
26. I feel more tense and nervous in my language class than in my other classes.
27. I get nervous and confused when I am speaking in my language class.
28. When I'm on my way to language class, I feel very sure and relaxed.
29. I get nervous when I don't understand every word the language teacher says.
30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.
31. I am afraid that the other students will laugh at me when I speak the foreign language.
32. I would probably feel comfortable around native speakers of the foreign language.
33. I get nervous when the language teacher asks questions which I haven't prepared in advance.

Appendix III

Teacher self-evaluation form

This teacher self-evaluation was provided in the form of an evaluation sheet (part A, B and C) for the experimental group at the start of the professional development trajectory as an instrument for professionalization (see chapter 5) and as a pre-measurement for the research (see chapter 5.4). Part B and C were also provided in the form of a digital questionnaire in the control group as a pre-measurement (see chapter 5).

A. Visual presentation of a representative regular lesson series in speaking skills

Use the stickers to characterise the structure of your regular lesson series in speaking skills on the A3 sheet provided. Use the following nine main stickers: input (e.g. reading texts, listening texts, model dialogues), exercises, closed speaking task, open speaking task, final speaking task, teacher feedback, peer feedback, self-evaluation, final self-evaluation. If any of the components were tailored to one or more individual students, stick a “Tailored” sticker under the relevant main sticker. Stick the purple stickers under the main stickers to indicate the organisation form (work format).

B. Aspects of speaking skills¹²

1. How satisfied are you with the number of speaking tasks in a lesson series?
2. How satisfied are you with the type of speaking tasks (closed and/or open speaking tasks)?
3. How satisfied are you with the information gap in the speaking tasks (a reason to communicate)?
4. How satisfied are you with the speaking goal of the speaking tasks?
5. How satisfied are you with the structure of the speaking tasks?
6. How satisfied are you with work format of the speaking tasks?
7. How satisfied are you with the feedback that you give on the speaking tasks?
8. How satisfied are you with the input for the speaking tasks (amount, type)? (By input I mean the language material that the students get in the form of reading texts, listening texts, vocabulary lists, handy phrases, sample dialogues, etc. which belong to the same lesson series as the speaking task).
9. How satisfied are you with the supporting exercises accompanying the speaking tasks (number, type)?
10. How satisfied are you with the feedback that you give on the supporting exercises?

¹² Answers on a 3-point scale with an open field for explanation:

Satisfied 1 2 3 Dissatisfied

because,

11. How satisfied are you with the connection between the speaking tasks and the input and/or supporting exercises?
12. How satisfied are you with the testing of the speaking tasks?
13. How satisfied are you with the amount of choice the students have?
14. Other (enter any other aspect that you think is important and give the reason)

C. Goals for improvement / Intentions:

Give a maximum of 5 aspects of your teaching of speaking skills in order of priority that you would like to improve or change.

State what help you would like to do this. Choose from:

- Tackle it on my own
- With colleagues
- With help from the teacher educator on this course

Appendix IV

Teaching Impact Analysis – pre-test

A teaching impact analysis (Janssen, Westbroek & Doyle, 2014a) was used to establish the practicality of the teachers' regular teaching and the *SpeakTeach* method.

A. Teaching speaking skills using your regular approach and methods¹³

1. The way I normally teach speaking skills, I find

Very undesirable 1 2 3 4 5 6 7 Desirable

2. The way I normally teach speaking skills works well for me

Definitely not 1 2 3 4 5 6 7 Definitely

3. What do you see as the most important advantages of your current method of teaching speaking skills? (Give up to a maximum of 4)

4. What do you see as the most important disadvantages of your current method of teaching speaking skills? (Give up to a maximum of 4)

5. What do you think are the most significant problems for you when designing and putting into practice the teaching of speaking skills using your current methods? (Give up to a maximum of 4)

¹³ Translated from Dutch

B. Teaching speaking skills following the three principles of the *SpeakTeach* method¹⁴

(The three principles are: 1. Add self-evaluation 2. Offer activities to improve speaking skills in response to the students' self-evaluations 3. Give adaptive feedback in response to the self-evaluation)

6. Teaching speaking skills following the three principles of the *SpeakTeach* method, I find

Very undesirable 1 2 3 4 5 6 7 Desirable

7. Teaching speaking skills following the three principles of the *SpeakTeach* method, works well for me

Definitely not 1 2 3 4 5 6 7 Definitely

8. What do you see as the most important advantages of the *SpeakTeach* method?
(Give up to a maximum of 4)

9. What do you see as the most important disadvantages of the *SpeakTeach* method?
(Give up to a maximum of 4)

10. What do you think are the most significant problems for you when designing and putting into practice the teaching of speaking skills using the *SpeakTeach* method?
(Give up to a maximum of 4)

¹⁴ Translated from Dutch

Appendix V

Teacher digital questionnaire – post-test

The post-test for teachers (see *method* in Chapters 3 and 5) consisted of the following components and questions:

A. Teaching Impact Analysis¹⁵

Teaching speaking skills using your regular methods (i.e. not using *SpeakTeach* but doing what you normally do)

1. I think that the way I normally taught speaking skills before the SpeakTeach experiment was

Very undesirable 1 2 3 4 5 6 7 Desirable

2. The way I normally taught speaking skills before the SpeakTeach experiment worked for me

Definitely not 1 2 3 4 5 6 7 Definitely

3. What do you see as the most important advantages of your usual method of teaching speaking skills? (Give up to a maximum of 4)

4. What do you see as the most important disadvantages of your usual method of teaching speaking skills? (Give up to a maximum of 4)

5. What do you think are the most significant problems for you when designing and putting into practice the teaching of speaking skills using your usual methods? (Give up to a maximum of 4)

¹⁵ Questions translated from Dutch

Teaching speaking skills following the three principles of the *SpeakTeach* method

The three principles are: 1. Add self-evaluation 2. Offer activities to improve speaking skills in response to the students' self-evaluations 3. Give adaptive feedback in response to the self-evaluation)

6. I think that teaching speaking skills following the principles of the *SpeakTeach* method is

Very undesirable 1 2 3 4 5 6 7 Desirable

7. I succeeded in teaching speaking skills following the principles of the *SpeakTeach* method

Definitely not 1 2 3 4 5 6 7 Definitely

8. What do you see as the most important advantages of teaching speaking skills following the *SpeakTeach* principles? (Give up to a maximum of 4)

9. What do you see as the most important disadvantages of teaching speaking skills following the *SpeakTeach* principles? (Give up to a maximum of 4)

10. What do you think are the most significant problems for you when designing and putting into practice the teaching of speaking skills following the *SpeakTeach* principles? (Give up to a maximum of 4)

B. Aspects of speaking skills¹⁶

How satisfied were you with specific aspects of your teaching or speaking skills during the *SpeakTeach* rounds?

11. How satisfied were you with the number of speaking tasks in a lesson series?
12. How satisfied were you with the type of speaking tasks in a lesson series?
13. How satisfied were you with the information gap in the speaking tasks (reason to communicate)?
14. How satisfied were you with the speaking goal of the speaking tasks?
15. How satisfied were you with the structure of the speaking tasks?
16. How satisfied were you with work format of the speaking tasks?
17. How satisfied were you with the feedback that you gave on the speaking tasks?
18. How satisfied were you with the input for the speaking tasks (amount, type)? (By input I mean the language material that the students got in the form of reading texts, listening texts, vocabulary lists, handy phrases, sample dialogues, etc. which belonged to the same lesson series as the speaking task)
19. How satisfied were you with the supporting exercises accompanying the speaking tasks (number, type)?
20. How satisfied were you with the feedback that you gave on the supporting exercises?
21. How satisfied were you with the connection between the speaking tasks and the input and/or supporting exercises?
22. How satisfied were you with the testing of the speaking tasks?
23. How satisfied were you with the amount of choice the students had?
24. Other (enter any other aspect that you think is important and give the reason).

¹⁶ Answers on a 3-point scale with an open field for explanation:

Satisfied 1 2 3 Dissatisfied

because,

C. Goals for improvement / Intentions¹⁷:

At the start of the professional development trajectory you chose five aspects of your teaching of speaking skills that you wanted to change or improve over the course of the research period (see questions 25, 26, 27, 28 and 29). To what extent are you satisfied with the fulfilment of your intentions?¹⁸

25. You wanted to give the students freedom of choice: more freedom to determine what tasks they wanted to do, in what order and how they wanted to work on a particular task (form of work). How satisfied are you with the fulfilment of your intentions?
26. You wanted to make the connection between the speaking tasks and the input and/or supporting exercises clear to the students. How satisfied are you with the fulfilment of your intentions?
27. You wanted to add an information gap to the speaking tasks. How satisfied are you with the fulfilment of your intentions?
28. You wanted to add supporting exercises geared to communication to the speaking tasks. How satisfied are you with the fulfilment of your intentions?
29. You wanted to change the structure of the lesson, so that it starts with the open speaking task (with self-evaluation) and the closed speaking tasks are introduced as supporting exercises (to be followed by the students repeating the same open speaking task). How satisfied are you with the fulfilment of your intentions?

D. Positive effects of SpeakTeach and your plans to use SpeakTeach in future lessons

30. What positive effects have you found on your students from using the SpeakTeach method? (Give up to a maximum of 4)
31. How likely is it that you will use all or part of the SpeakTeach method in the remainder of this school year or next year?

Very unlikely 1 2 3 4 5 6 7 Very likely

Because,

¹⁷ The content of the following questions (25-29) were personalized, because they depended on the answers given by a teacher on the question about goals for improvement in his/her teacher's self-evaluation (see part C in appendix III).

¹⁸ Answers on a 7-point likert scale

Appendix VI

Questionnaire for a *SpeakTeach* round¹⁹

Your name:

Date of lesson/lesson series:

A *SpeakTeach* round consists of:

0. A lesson/lesson series with a specific speaking goal;
1. A self-evaluation by the students linked to a speaking task;
2. One or more subsequent lessons with a. learning activities (input and/or exercises) and b. feedback in response to the students' self-evaluations to improve their speaking performance;
3. A final self-evaluation by the students linked to the same or similar speaking task to evaluate whether their speaking performance has improved.

A. Visual presentation of a *SpeakTeach* round

- a. Use the *SpeakTeach* stickers to characterise the structure of your lesson series on the A3 sheet provided. Use the following nine main stickers: input (e.g. reading texts, listening texts, model dialogues), exercises, closed speaking task, open speaking task, final speaking task, teacher feedback, peer feedback, self-evaluation, final self-evaluation. If any of the components were tailored to one or more individual students, stick a "Tailored" sticker under the relevant main sticker. Stick the purple stickers under the main stickers to indicate the organisation form (work format).
- b. Make a note on the A3 sheet of what you have changed from what you would do in a regular lesson/lesson series.

¹⁹ Translated from Dutch

B. Specification of a *SpeakTeach* round

1. How many speaking tasks in the lesson/lesson series are connected with the final speaking task? _____ (*enter number*)

2. Does the lesson/lesson series contain? (*tick one answer*)

- Only closed speaking tasks
- Closed and open speaking tasks
- Only open speaking tasks

Why did you choose this? *Explain:*

3. How did you structure the speaking tasks? (*tick one answer*)

- There is no build up from closed to open speaking tasks
- There is a build up from closed to open speaking tasks
- There is an open speaking task first followed by supporting speaking tasks if there is scope for improvement

Why did you choose this? *Explain:*

4. For which type of speaking task did the students do their self-evaluation? (*tick all answers that apply*)

- The self-evaluation was done on a closed speaking task
- The self-evaluation was done on an open speaking activity
- The self-evaluation was done on the final speaking activity

Why did you choose these? *Explain:*

5. What type of input was offered after the self-evaluation to improve the students' speaking? *(tick all answers that apply)*

- Reading texts
- Listening fragments
- Listening fragments with transcriptions
- Model dialogues
- Instructions about vocabulary / grammar / pronunciation / fluency
- Other, i.e.

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

6. What type of exercises did you offer after the self-evaluation? *(tick all answers that apply)*

- Supporting speaking tasks
- Exercises to enlarge vocabulary
- Grammar exercises
- Pronunciations exercises
- Exercises aiming to improve fluency
- Other, i.e.

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

7. What choices were the students given with respect to the input and/or exercises for improvement after the self-evaluation? *(tick all answers that apply)*

- All students got the same input and/or exercises for improvement
- Some of the input and/or exercises had to be done by everyone; others were by choice

- The students decided which input to use and which exercises to do after the self-evaluation
- The order of the input and/or exercises for improvement was the same for all students
- The order of some of the input and/or exercises for improvement was the same for all students but they could decide for some of it for themselves
- The students decided in what order they used the input and/or did the exercises
- The work format for the input and/or exercises was the same for all students
- Part of the work format for the input and/or exercises was the same for all students but they were allowed to decide on the work format for part of it for themselves
- The students decided on the work format for the input and/or exercises for themselves

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

8. How did you get the students to work on the improvement activities after the self-evaluation? *(tick all answers that apply)*

- Independently / individually
- In pairs
- In groups
- Whole class
- Student's choice
- Sorted based on the self-evaluations

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

9. What type of feedback did you give in the lesson/lesson series? (*tick all answers that apply*)

- Feedback on the message
- Feedback on vocabulary
- Feedback on grammar
- Feedback on pronunciation
- Feedback on fluency
- Feedback on how much the student noticed
- Feedback on regulation (based on the student's plan for improvement)
- Feedback on affective factors (effort, motivation, attitude, speaking anxiety, perfectionism)
- I chose my feedback based on the self-evaluations (tailored to the student)

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

10. How did you organise your feedback in the lesson/lesson series? (*tick all answers that apply*)

- I gave individual feedback
- I gave feedback to pairs
- I gave feedback to groups
- I gave feedback to the whole class
- I chose how to give my feedback based on the self-evaluations (tailored to the students' learning needs)

Why did you choose these? *Explain:*

Did you make your choice based on seeing the self-evaluation? *Explain:*

C. Use of the self-evaluation or recording

1. Did you listen to the students' recordings? (*tick one answer*)

- No
- Yes
- Partially

Explanation:

2. Did you look at the individual students' self-evaluations? (*tick one answer*)

- No
- Yes
- Partially

Explanation:

3. Did you look at the summary of the improvement plans of the class? (*tick one answer*)

- No
- Yes
- Partially

Explanation:

Thank you for completing the questionnaire! Send your completed questionnaire and the enclosed A3 sheet on which you have stuck the stickers showing the structure of the lesson/lesson series to Esther de Vrind. Use the reply envelope provided.

Nederlandse samenvatting

Communicatieve vaardigheden in moderne vreemde talen zijn van groot belang voor het functioneren in alle delen van de samenleving. Bijvoorbeeld in de diplomatie, in de internationale handel, in de toeristische sector en voor studie. In deze multiculturele en geglobaliseerde wereld is het voor ieder individu belangrijk om te kunnen communiceren in andere talen. Het opent de weg naar wereldburgerschap en leidt, samen met de ontwikkeling van interculturele competenties, tot begrip en openheid voor mensen met een andere culturele achtergrond (Meesterschapsteam Moderne Vreemde Talen, 2018; Onderwijsraad, 2008; Raad van Europa, 2001).

Om deze redenen is gespreksvaardigheid²⁰ in moderne vreemde talen een belangrijk onderdeel van leerplannen en examenprogramma's voor het voortgezet onderwijs. Een autonome moderne vreemde taal*leerder* worden, wordt daarbij als belangrijk doel voor leerlingen gezien, opdat zij zelf hun taalontwikkeling kunnen voortzetten (bijv. College voor Toetsen en Examens, 2020; Raad van Europa, 2001; Holec, 1981; Lee, 1998; Little, Dam & Legenhausen, 2017). Autonome vreemde taalleerders zijn in staat om hun eigen vaardigheden op het gebied van moderne vreemde talen zelf verder te ontwikkelen en steeds meer verantwoordelijkheid te nemen voor hun leerproces (Lee, 1998). Dat vereist dat de leerlingen inzicht hebben in hun eigen leerproces en, met betrekking tot het spreken, inzien wat nodig is om hun eigen gespreksvaardigheid te verbeteren. Leerlingen moeten leren hun spreekprestaties te evalueren, doelen te stellen, plannen te maken om die doelen te bereiken, hun plannen uit te voeren en te evalueren, waarna de cyclus weer kan worden doorlopen (Little et al., 2017). Een autonome leerling is in staat om al deze activiteiten zelfstandig uit te voeren. De meeste leerlingen moeten echter worden begeleid bij het leren zelfreguleren van hun gespreksvaardigheid. Deze begeleiding moet afgestemd zijn op de leerlingen, wat betekent dat de leerlingen de hulp krijgen die ze nodig hebben (niet meer en niet minder) en dat de begeleiding geleidelijk aan wordt afgebouwd tot ze in staat zijn om zelfstandig hun leerproces ten aanzien van gespreksvaardigheid te sturen (bijv. Sadler, 1998). Hiervoor zouden docenten feedback en leeractiviteiten moeten aanpassen aan leerbehoeften van de leerlingen. Afstemmen op de leerbehoeften van leerlingen is echter een zeer complex proces.

²⁰ In deze dissertatie is gekozen voor de term gespreksvaardigheid (gesprekken voeren), maar er wordt ook spreekvaardigheid (het houden van presentaties, monologen) mee bedoeld.

Een eerste punt dat het afstemmen complex maakt, betreft de veelheid aan keuzes met betrekking tot feedback op gespreksvaardigheid. Veel onderzoek naar feedback op het gebied van taalverwerving heeft zich gericht op de effectiviteit van specifieke soorten feedback of strategieën (Lyster, Saito & Sato, 2013). Conclusies die aan dergelijk onderzoek kunnen worden verbonden, zijn niet zomaar overdraagbaar naar de context van een klas, omdat dit soort onderzoek zich meestal richt op een bepaald facet van feedback, terwijl docenten complexe keuzes moeten maken met betrekking tot alle facetten van feedback. Bij gespreksvaardigheid spelen veel aspecten een rol, zoals uitspraak, woordenschat, grammatica, vloeiendheid en de boodschap overbrengen. Als gevolg daarvan kunnen leerlingen een grote divergentie in de kwaliteit van hun taaluitingen produceren en daardoor kan de focus van feedback divers zijn. Bovendien is de focus van feedback niet het enige waarover de docent moet nadenken. In korte tijd moeten docenten ook veel beslissingen nemen ten aanzien van andere aspecten van de feedback: Waarop feedback geven? Hoe de feedback formuleren? Wanneer de feedback geven en door wie? (zie figuur 1, p.20).

Een tweede moeilijkheid is dat docenten inzicht moeten hebben in het individuele leerproces van elke leerling om adequate feedback te kunnen kiezen die de leerling daadwerkelijk begrijpt en die het leren bevordert. Socio-culturele theorie (Lantolf, Thorne & Poehner, 2015; Aljaafreh & Lantolf, 1994; Poehner & Lantolf, 2005) stelt dat geen enkele specifieke feedbackstrategie altijd effectief is. Feedback is effectief als deze in lijn is met de zone van naaste ontwikkeling van de leerling (Vygotsky, 1987). Daarom is de keuze van de focus, het type of de strategie van feedback afhankelijk van de ontwikkeling van de individuele leerling en is de feedback erop gericht dat de leerling zich uiteindelijk zelf kan verbeteren. Hiervoor stelden Aljaafreh en Lantolf (1994) een "*Regulatory Scale*" voor met 12 niveaus die van impliciete feedback naar expliciete feedback gaan om niet alleen stapsgewijze, maar vooral ook afgestemde ondersteuning te kunnen bieden. Zij bevelen aan om te beginnen met de meest impliciete vorm en naar meer expliciete feedback te gaan als de leerling die nodig blijkt te hebben om zichzelf te verbeteren. Het doel is om de overgang van sturing door anderen naar zelfregulatie te vergemakkelijken (Aljaafreh & Lantolf, 1994). Het geven van dergelijke adaptieve feedback vereist echter niet alleen zicht op de spreekprestatie van de leerling zelf, maar ook inzicht in wat de leerling zelf begrijpt en opmerkt (*noticing*, Schmidt, 1990) ten aanzien van zijn spreekprestatie, inzicht in het vermogen van de leerling om zijn

gespreksvaardigheid zelf te verbeteren (regulatieve vaardigheden) en in affectieve factoren bij de leerling die het leerproces kunnen beïnvloeden (zie figuur 1).

Een derde moeilijkheid is dat inzicht in alle bovengenoemde aspecten en niveaus in het leerproces van elke individuele leerling moet worden verworven in de complexe context van een klassikale setting. In een één-op-één begeleidingssetting is dit al moeilijk, laat staan in reguliere klassen met 25 tot 30 leerlingen die de docent slechts twee of drie lessen per week ziet. Vanwege de vluchtige aard van spraak gaat gelegenheid om feedback te geven snel voorbij en wat daarvan daadwerkelijk wordt opgepakt door leerlingen (de *uptake*) hangt voor een groot deel af van hun vermogen om zich te herinneren wat er gezegd is en van de mogelijkheid om zichzelf te verbeteren en een zelfde of vergelijkbare spreektaak nogmaals te oefenen. Tijd is beperkt, want gespreksvaardigheid is niet het enige curriculumonderdeel bij talen. Bovendien heeft de docent naast de leerdoelen van de diverse curriculumonderdelen, gelijktijdig ook andere doelen te realiseren, zoals het creëren en onderhouden van een optimaal leerklimaat, het motiveren en activeren van leerlingen, en dat alles met beperkte tijd, kennis en middelen (Kennedy, 2005; 2016b; Janssen, Westbroek & Doyle, 2015).

Het is dan ook niet vreemd dat docenten moderne vreemde talen in het voortgezet onderwijs in Nederland melden dat de klassen te groot zijn en dat dit, samen met het gebrek aan tijd en gebrek aan zelfstandigheid van leerlingen, hun training van gespreksvaardigheid belemmert (Fasoglio, 2015). Zij hebben moeite met het geven van adaptieve feedback op gespreksvaardigheid (Corda, Koenraad & Visser, 2012). Volgens Kwakernaak (2009: 243) is het geven van feedback op gespreksvaardigheid één van de grootste problemen in het vreemdetalenonderwijs in Nederland. Volgens Lyster e.a. (2013: 30) moeten docenten beschikken over een zeer breed repertoire aan feedbacktypes en -strategieën om uit te kunnen kiezen om af te stemmen op de behoeften van hun leerlingen en af te stemmen op de onderwijscontext. Uit beschrijvende studies is echter gebleken dat docenten een beperkt feedbackrepertoire hebben dat niet altijd voldoet aan de leerbehoeften van individuele leerlingen (Gass & Mackey, 2012; Lyster et al., 2013; Yoshida, 2008). Bovendien ontbreekt vaak de gelegenheid voor leerlingen om hun gespreksvaardigheid te verbeteren. In het voortgezet onderwijs wordt een bepaalde spreektaak vaak maar één keer in een lessenreeks aangeboden zonder extra instructie of oefening en met beperkte gelegenheid voor reflectie achteraf (Goh, 2017; Goh & Burns, 2012; hoofdstuk 2 van Van Batenburg, 2018).

Uit bovenstaande blijkt dat een adaptieve didactiek nodig is om leerlingen te ondersteunen bij het leren zelfreguleren van hun leerproces bij gespreksvaardigheid. Een nieuwe onderwijsaanpak zal echter alleen worden geïmplementeerd in de lespraktijk als deze niet alleen het leren van leerlingen bevordert, maar ook praktisch bruikbaar is voor docenten (Janssen et al., 2015). Praktisch voor docenten betekent dat de adaptieve didactiek concrete ontwerpprincipes biedt om afstemming op de leerbehoeften van hun leerlingen te realiseren in reguliere klassen met 25-30 leerlingen, in de beperkte tijd en met de middelen die beschikbaar zijn, en die niet conflicteren met andere doelen die docenten gelijktijdig ook moeten realiseren in hun lessen (Doyle & Ponder, 1977; Janssen et al., 2013). De nieuwe onderwijsaanpak moet dus passen bij de huidige lespraktijk en andere doelen die in die lespraktijk gerealiseerd moeten worden.

Doelstelling, onderzoeksvraag en methode van onderzoek

Het doel van dit proefschrift was dan ook een didactiek voor zelfregulerend leren van gespreksvaardigheid in moderne vreemde talen te ontwikkelen, te implementeren en te evalueren die adaptief is voor middelbare scholieren en praktisch bruikbaar voor docenten in hun reguliere lespraktijk. De centrale onderzoeksvraag in deze dissertatie was: Wat zijn de ontwerpprincipes voor een didactische didactiek voor zelfregulerend leren van gespreksvaardigheid in een vreemde taal die adaptief is voor leerlingen en praktisch bruikbaar voor docenten?

Dit onderzoek richtte zich zowel op de ontwikkeling van oplossingen voor een praktisch en complex onderwijsprobleem dat mensen uit de onderwijspraktijk tegenkomen als op de ontwikkeling van theoretisch en empirisch onderbouwde ontwerpprincipes. Ontwerpprincipes geven aan wat te doen om uitkomst x te realiseren in context z. Omdat een belangrijk kenmerk van onderwijskundig ontwerp onderzoek is om bij te dragen aan zowel de onderwijspraktijk als theorievorming, is gekozen voor deze methode van onderzoek (McKenney, Nieveen & Van den Akker in Gravemeijer & Cobb, 2006: 110-143). Ontwerponderzoek bestaat vaak uit twee of meer iteratieve cycli van ontwerp, implementatie en evaluatie. Op basis van theorieontwikkeling en praktijkkennis worden initiële ontwerpprincipes opgesteld. Deze worden vertaald naar concreet onderwijs dat vervolgens in de praktijk wordt gebracht. Interventies in de klas worden getoetst aan de hand van zowel kwantitatieve als kwalitatieve gegevens. De evaluatie van de nieuwe lespraktijk levert op haar

beurt theoretisch en empirisch onderbouwde ontwerpprincipes op voor het oplossen van het gesignaleerde complexe onderwijsprobleem.

Wat zijn de ontwerpprincipes voor een didactiek voor zelfregulerend leren van gespreksvaardigheid in een vreemde taal die adaptief is voor leerlingen en praktisch voor docenten?

Om deze centrale onderzoeksvraag te beantwoorden werden vier empirische studies uitgevoerd (zie de hoofdstukken 2, 3, 4 en 5). In hoofdstuk 2 wordt verslag gedaan van een pilotstudie naar een mogelijke adaptieve en praktische didactiek met zelfevaluatie door leerlingen als ontwerpprincipe. Na deze pilotstudie werden drie studies uitgevoerd vanuit twee verschillende perspectieven, het perspectief van de leerling en het perspectief van de docent, en met verschillende foci.

Pilotstudie

In de eerste fase van dit onderzoek is op basis van een literatuurstudie een pilotstudie uitgevoerd naar een ontwerp voor een adaptieve en praktische didactiek voor gespreksvaardigheid in een moderne vreemde taal. In deze pilotstudie is onderzocht of zelfevaluatie door leerlingen docenten kan helpen om inzicht te krijgen in de behoeften van individuele leerlingen op het gebied van gespreksvaardigheid en helpt om feedback aan te passen aan deze leerbehoeften. De zelfevaluatie van de leerlingen werd op kleine schaal getest door drie docenten Frans die lesgaven op drie verschillende middelbare scholen in twee 5-vwo klassen en één 4 vwo-klas. De leerlingen voerden een gesprek in het Frans dat opgenomen werd, luisterden hun eigen gesprek terug en vulden een zelfevaluatief formulier in. In elke klas werden 5 of 6 leerlingen aselekt gekozen ($n=17$). Van hen werden de ingevulde zelfevaluatief formulieren geanalyseerd en is beschreven hoe de leerlingen zichzelf evalueren. Hiervoor zijn de ingevulde antwoorden in de zelfevaluaties in een matrix gezet met: genoemde positieve punten, fouten, verbeterplan en benodigde hulp, die gecategoriseerd werden met de volgende parameters: boodschap, woordenschat, grammatica, uitspraak, en vloeiendheid. Interpretaties door de onderzoeker zijn gemaakt over mate van concreetheid van de inschatting, consistentie en discrepanties tussen de positieve punten, fouten, verbeterplan, en benodigde hulp. In open gestructureerde interviews met de drie docenten werd onderzocht of hun beoogde feedback en inschatting van de spreekprestatie en leerbehoeften

van de leerlingen verschoven als gevolg van het zien van de zelfevaluaties. Ten slotte werd aan de docenten gevraagd om de mogelijke praktische bruikbaarheid van de zelfevaluatie te evalueren. De resultaten van deze pilotstudie toonden aan dat het gebruik van zelfevaluatie door leerlingen om docenten te helpen feedback af te stemmen op de leerbehoeften veelbelovend was: de docenten meldden dat de zelfevaluaties van hun leerlingen hun inzicht in het leerproces met betrekking tot gespreksvaardigheid verhoogden en ze hun voorgenomen feedback wijzigden na het zien van de zelfevaluaties om af te stemmen op de behoeften van de individuele leerlingen. Bovendien evalueerden de docenten het zelfevaluatieproces ook als mogelijk praktisch bruikbaar in de lespraktijk.

Deze pilotstudie gaf inzicht in het eerste ontwerpprincipe, *zelfevaluatie door de leerling*. In de tweede fase van het onderzoek werden, op basis van reflectie op de resultaten van de pilotstudie en literatuuronderzoek, andere ontwerpprincipes om de didactiek adaptief te maken voor leerlingen en praktisch voor docenten uitgewerkt en getest in de lespraktijk. Onderzocht werd in hoeverre de didactiek inderdaad als praktisch werd ervaren door docenten en als adaptief door leerlingen.

Praktische bruikbaarheid van de didactiek

In hoofdstuk 3 van deze dissertatie werd verslag gedaan van het onderzoek vanuit het perspectief van de docenten en lag de focus op het praktisch bruikbaar maken van een adaptieve didactiek. Het eerste ontwerpprincipe uit de pilotstudie, 'zelfevaluatie door leerlingen', is verder uitgewerkt in een adaptieve didactiek met de ontwerpprincipes 'adaptieve feedback' en 'activiteiten ter verbetering'. In deze studie werd ingegaan op de vraag hoe een adaptieve didactiek voor gespreksvaardigheid in moderne vreemde talen op zodanige manier praktisch kan worden gemaakt voor docenten dat zij deze kunnen aanpassen aan hun context en daadwerkelijk kunnen toepassen in hun lespraktijk waarbij de kern van de didactiek wel behouden blijft. Om dit te realiseren, werd op basis van inzichten uit onderzoek naar begrensde rationele en ecologisch rationele besluitvorming (Todd & Gigerenzer, 2012) en *practicality theorie* (Doyle & Ponder, 1977; Janssen et al., 2013) het zogenoemde *Bridging model* gebruikt om de praktische en adaptieve didactiek te ontwikkelen. In navolging van dit *Bridging model* (Janssen, Westbroek, Doyle, & Van Driel, 2013; Janssen, Westbroek & Doyle, 2015) werd de reguliere lespraktijk van gespreksvaardigheid in moderne vreemde talen eerst

opgesplitst in bouwstenen. Bouwstenen zijn herkenbare lessegmenten, in dit geval van reguliere moderne vreemde talen lessen, zoals *input* (het lezen van teksten of luisterfragmenten), oefeningen (bijvoorbeeld gericht op grammatica of woordverwerving), spreekactiviteiten en feedback. De volgende stap was het ontwerpen van principes die gericht zijn op het bereiken van de doelen van de nieuwe didactiek. Zoals gezegd waren de doelen van de didactiek inzicht in het leerproces bij gespreksvaardigheid krijgen om op leerbehoeften af te stemmen. De ontwerpprincipes moesten het mogelijk maken om de bouwstenen op verschillende manieren in de bestaande lespraktijk op te nemen, zodat de docenten de didactiek konden aanpassen aan hun eigen lespraktijk. Er werden drie praktische ontwerpprincipes geformuleerd om de doelstellingen van de didactiek te bereiken: 1) een zelfevaluatie door de leerling toevoegen aan een spreekactiviteit, waarna vervolgens op basis van die zelfevaluatie 2) gedifferentieerd activiteiten ter verbetering en 3) adaptieve feedback worden aangeboden, waarna de leerlingen dezelfde of een vergelijkbare spreekactiviteit doen en de voortgang evalueren. Dit kan worden herhaald waardoor een iteratief leerproces ontstaat. De adaptieve didactiek bestaande uit deze drie ontwerpprincipes werd de *SpeakTeach* didactiek genoemd.

Aan de hand van vragenlijsten en visuele weergaven van de lessen werd onderzocht hoe 13 docenten moderne vreemde talen (drie docenten Duits, vijf docenten Engels, drie docenten Frans en twee docenten Spaans) die lesgeven in het reguliere voortgezet onderwijs de *SpeakTeach* didactiek toepasten in 2 2-vwo-klassen, 2 3-vwo-klassen, 1 4-vwo-klas, 3 5-vwo-klassen, 2 6-vwo-klassen, 1 2-havo-klas, 3 3-havo-klassen, 1 4-havo-klas, 3 5-havo-klassen en 1 3-vmbo-klas en welke overwegingen ze daarbij hadden. Daarbij werd de praktische bruikbaarheid van de ontwikkelde didactiek vastgesteld met de zogenoemde onderwijs-impactanalyse (Janssen, Westbroek & Doyle, 2014a).

Uit de resultaten bleek dat in bijna alle lessenseries waarin de docenten de nieuwe didactiek toepasten, de kern van de didactiek (de drie ontwerpprincipes) behouden bleef. Alle drie de ontwerpprincipes zijn door de docenten geïmplementeerd in hun lespraktijk waarbij adaptieve overwegingen een rol speelden, in lijn met de doelen van de didactiek. De docenten hebben de drie ontwerpprincipes ingezet op veel verschillende manieren om af te stemmen op hun leerlingen, hun eigen lesstijl en lespraktijk, waardoor veel varianten van *SpeakTeach* lessen ontstonden. De didactiek bleek dus flexibel toe te passen in de lespraktijk.

Bovendien bleek uit een onderwijs-impactanalyse dat de docenten de didactiek praktischer en wenselijker dan hun reguliere lespraktijk vonden en niet moeilijker te implementeren dan hun reguliere lespraktijk. De docenten moderne vreemde talen uit het onderzoek rapporteerden over hun reguliere lespraktijk van gespreksvaardigheid problemen te hebben met betrekking tot de grootte van de klas, de organisatie, ordehandhaving en het actief bezig houden van de leerlingen. Deze praktische knelpunten werden niet genoemd voor de nieuwe didactiek. Inzicht in het leerproces en het kunnen afstemmen op de behoeften van de leerlingen werden als voordelen genoemd van de nieuwe didactiek.

Adaptiviteit van de didactiek

De studie in hoofdstuk 4 ging in op de onderzoeksvraag vanuit het oogpunt van de leerlingen. In deze studie werd de vraag gesteld of een zelfevaluatieprocedure een adaptief hulpmiddel kan zijn voor leerlingen in het voortgezet onderwijs om hun gespreksvaardigheid in vreemde talen te leren verbeteren en hun leerproces zelf te reguleren.

In een quasi-experimentele studie werd onderzocht in welke mate er veranderingen plaatsvonden in het proces van zelfregulering bij het verbeteren van de eigen gespreksvaardigheid van leerlingen in het voortgezet onderwijs. Tevens werd onderzocht in welke mate de leerlingen de zelfevaluatieprocedure als motiverend ervoeren en de gekregen steun (in de vorm van feedback en/of verbeteractiviteiten) als adaptief. Hiertoe werd een zelfevaluatieprocedure uitgevoerd in lessen moderne vreemde talen door 329 leerlingen uit verschillende leerjaren, op verschillende niveaus (2 2-vwo-klassen, 2 3-vwo-klassen, 1 4-vwo-klas, 3 5-vwo-klassen, 2 6-vwo-klassen, 1 2-havo-klas, 3 3-havo-klassen, 1 4-havo-klas, 3 5-havo-klassen en 1 3-vmbo-klas), op 10 verschillende reguliere middelbare scholen. Daarnaast was er een controlegroep met 369 leerlingen uit moderne vreemde talenklassen eveneens van verschillende leerjaren, op verschillende niveaus en van verschillende scholen. Een cyclus van de zelfevaluatieprocedure bestond uit het uitvoeren van een gesprek in een moderne vreemde taal, gevolgd door de zelfdiagnose van de leerling met verbeterplan. Op basis van de zelfdiagnose en een verbeterplan kreeg de leerling adaptieve feedback en verbeteractiviteiten van zijn docent om de gespreksvaardigheid te verbeteren.

Er werden 1.024 zelfevaluaties van de leerlingen uit de experimentele groep onderzocht die diagnoses bevatten van een opname van hun eigen gespreksvaardigheid, hun verbeterplannen en voorkeur voor werkvorm of hulp van de docent. Daarnaast werden onder

zowel de experimentele als de controlegroep vragenlijsten afgenomen om te meten in hoeverre de leerlingen gekregen feedback en verbeteractiviteiten als adaptief ervoeren. Tot slot werden vragenlijsten onder de experimentele groep afgenomen om de motivatie van de leerlingen voor de verschillende onderdelen van de zelfevaluatieprocedure (het opnemen en terugluisteren van de eigen spreekprestatie; het evalueren van de eigen spreekprestatie; het maken van een verbeterplan; het uitvoeren van het verbeterplan) en ook om de mate van spreekangst te meten.

Uit de resultaten van dit onderzoek bleek dat de perceptie van de leerlingen van hun leerbehoeften veranderde na een aantal iteraties van de zelfevaluatieprocedure. Een belangrijk doel van de zelfevaluatieprocedure was om leerlingen uit het voortgezet onderwijs te ondersteunen om steeds onafhankelijker te worden tijdens het doorlopen van de verschillende onderdelen van het zelfreguleringsproces. Er werd vastgesteld dat de behoefte van de leerlingen aan hulp van de docent afnam en dat de voorkeur voor zelfstandig werken na een aantal iteraties van de zelfevaluatieprocedure toenam. Bovendien werden ook verschuivingen in de diagnoses en foci van de verbeterplannen gevonden. Het bleek dat de leerlingen de foci van hun diagnoses en plannen uitbreidden. Het onderzoek toonde ook aan dat leerlingen de zelfevaluatieprocedure als motiverend ervoeren. In de mate van spreekangst werd geen verandering vastgesteld.

Wat betreft de adaptiviteit van feedback en activiteiten ter verbetering werd in de post-test gevonden dat de leerlingen in de experimentele groep de verbeteractiviteiten in gespreksvaardigheidslessen over het algemeen even afgestemd op hun behoeften vonden als de controlegroep en feedback minder afgestemd op hun behoeften dan de controlegroep. Maar in de vragenlijsten die tijdens de interventie direct na een specifieke zelfevaluatiecyclus werden afgenomen in de experimentele groep, gaven de leerlingen aan dat zij in de meeste gevallen de feedback- en verbeteractiviteiten als adaptief ervoeren. Hieruit kan worden geconcludeerd dat feedback en leeractiviteiten tijdens gespreksvaardigheidslessen over een hele periode door de leerlingen van de experimentele groep niet als adaptiever dan normaal werden beschouwd, maar dat de specifieke periodes van werken aan de zelfevaluatieprocedure door hen wel als adaptief werden ervaren.

Docentprofessionalisering m.b.t. uitbreiden van onderwijsrepertoire met een adaptieve didactiek voor gespreksvaardigheid in een moderne vreemde taal

In hoofdstuk 5 werd ook de praktische kant van de adaptieve didactiek onderzocht, maar dan vanuit het perspectief van individuele docenten met de focus op hun professionele ontwikkeling. In dit hoofdstuk werd onderzocht hoe docenten kunnen worden ondersteund bij het uitbreiden van hun onderwijsrepertoire met een adaptieve didactiek voor gespreksvaardigheid in een moderne vreemde taal, de zogenoemde *SpeakTeach* didactiek (onderzocht en beschreven in de studies in hoofdstuk 3 en 4). Voor docentprofessionalisering is het belangrijk om rekening te houden met zowel de doelen van docenten als hun huidige lespraktijk. Zoals eerder gezegd, vereist de klasecologie dat docenten in beperkte tijd en met beperkte middelen meerdere doelen tegelijk realiseren. Een nieuwe didactiek moet passen bij deze contextuele beperkingen en bij de persoonlijke doelen van de docenten. Verder blijkt uit onderzoek dat onderwijsinnovaties moeten voortbouwen op de bestaande lespraktijk van de docenten en stappen moeten bieden die de integratie van het nieuwe onderwijsvoorstel in de bestaande lespraktijk mogelijk maken (zie bijv. Bransford, Derry, Berliner & Hammerness, 2005). Om dit te realiseren werd in deze studie een adaptief professionaliseringstraject ontworpen op basis van twee onderling samenhangende ontwerpprincipes: modulariteit en zelfevaluatie door de docent. Om verschillen te zien tussen de huidige lespraktijk en de gewenste innovatieve lespraktijk, werden beide vormgegeven in vergelijkbare modules of bouwstenen (modulariteit) en geëvalueerd door de docent (zelfevaluatie). Door deze bestaande bouwstenen te recombineren volgens een aantal richtlijnen (de ontwerpprincipes van de adaptieve didactiek) konden verschillende leerroutes worden gevolgd door de docenten om de nieuwe didactiek in hun lespraktijk te implementeren. Verondersteld werd dat er behoefte zou zijn aan verschillende adaptieve leerroutes, aangezien docenten verschillen in hun omstandigheden en hun doelen.

In deze studie werd onderzocht of er in een professionaliseringstraject op basis van modulariteit en zelfevaluatie door docenten adaptieve leertrajecten konden worden gerealiseerd waarbij docenten zowel de doelen van de innovatie (de adaptieve didactiek, de *SpeakTeach* didactiek) als hun eigen doelen konden bereiken op een manier die past bij en voortbouwt op wat de docenten al deden in hun lespraktijk. Hiervoor werd gebruik gemaakt van zelfevaluaties door de docenten (n=11) van hun eigen lespraktijk in gespreksvaardigheid in een moderne vreemde taal. Deze zelfevaluaties omvatten visuele weergaven van hun

reguliere lespraktijk en een prioritering van beoogde doelen. De zelfevaluatie werd gebruikt om te bepalen hoe de docenten de verschillende ontwerpprincipes van de *SpeakTeach* didactiek in opeenvolgende lessenseries implementeerden en om de leerroutes van de docenten te beschrijven. Daarnaast werden de open vragen van een impactanalyse (Janssen et al., 2014a) gebruikt om gegevens te verzamelen over de voor- en nadelen van de reguliere lespraktijk en de lessenseries die volgens de *SpeakTeach* didactiek zijn ontworpen.

Uit de resultaten bleek dat vrijwel alle docenten (10 van de 11) erin slaagden hun onderwijsrepertoire uit te breiden in lijn met de doelen van de innovatie (de *SpeakTeach* didactiek). Daarbij waren zij over het algemeen zowel tevreden over het bereiken van de doelen van de innovatie als over het bereiken van andere eigen doelen. Drie verschillende categorieën in leerroutes konden worden onderscheiden. Ten eerste *de bouwers* die dicht bij hun reguliere lespraktijk bleven en stapsgewijs op hun routines bouwden naar een nieuwe lespraktijk. Ten tweede, een categorie die bestond uit *vernieuwers met ook weer grote stappen terug*. Zij experimenteerden direct met grote stappen in vernieuwing en namen vervolgens ook weer stappen terug naar vernieuwingen dicht bij hun oorspronkelijke lespraktijk. En ten derde, *vernieuwers die verfijnden*, experimenteerden ook direct met nieuwe lespraktijken, maar deden daarna geen grote stappen terug. In plaats daarvan consolideerden en verfijnden zij de toepassing van de nieuwe didactiek (de *SpeakTeach* didactiek).

In conclusie, het professionaliseringstraject op basis van modulariteit en zelfevaluatie door de docenten stelde alle docenten op één na in staat om hun eigen leerroutes te volgen in de richting van de beoogde innovatie (de adaptieve didactiek) én passend bij hun doelen en lespraktijk.

Beantwoording centrale onderzoeksvraag

Ontwerpprincipes van de adaptieve en praktische didactiek

De deelstudies hebben geresulteerd in de volgende theoretische onderbouwde en beproefde ontwerpprincipes voor een didactiek voor zelfregulerend leren van gespreksvaardigheid in een vreemde taal die adaptief is voor leerlingen en praktisch bruikbaar voor docenten.

Om de didactiek voor het zelfregulerend leren van gespreksvaardigheid voor leerlingen adaptief te maken, bevatte de didactiek de volgende ontwerpprincipes:

1. Voeg een zelfevaluatie door de leerling toe aan een spreekactiviteit

De zelfevaluatie bestaat uit een diagnose door de leerling van een opname van een door de leerling gevoerd gesprek in een moderne vreemde taal, een door de leerling opgesteld plan met verbeteractiviteiten, gewenste werkvorm of vraag om hulp van de docent.

2. Zorg voor activiteiten voor verbetering en differentiatie

Op basis van de zelfevaluatie met een door de leerling opgesteld verbeterplan biedt de docent activiteiten aan voor verbetering in vervollessen of als huiswerk. De verbeterplannen bieden mogelijkheden om aan de leerbehoeften van de leerling tegemoet te komen door te differentiëren naar type en aantal verbeteringsactiviteiten, werkvorm en sturing in de lessen.

3. Zorg voor adaptieve feedback

Het uiteindelijke doel van de didactiek is zelfregulatie en daarom moet de keuze van de focus, het type en de strategie van de feedback worden afgestemd op de ontwikkeling van de leerling. De zelfevaluatie door de leerling geeft inzicht in die ontwikkeling. De diverse onderdelen van de zelfevaluatie, te weten: de diagnose, verbeterplan, gewenste werkvorm en eventueel vraag om hulp van de docent, en daarnaast eventueel de opname van de spreekprestatie van de leerling, geven de docent informatie om feedback op maat te geven.

Daarnaast is het belangrijk dat, na uitvoering van het verbeterplan, de leerlingen dezelfde of een vergelijkbare spreektaak met zelfevaluatie opnieuw doen om na te gaan of ze vooruitgang hebben geboekt en om in de praktijk te brengen wat ze geleerd hebben. Een nieuwe cyclus van monitoren en verbeteren kan dan beginnen (herhaling van principes 1 tot en met 3).

Wat betreft de praktische bruikbaarheid voor docenten zijn de ontwerpprincipes tweeledig. Ten eerste hadden de ontwerpprincipes voor de praktische bruikbaarheid voor docenten betrekking op *het weergeven van de didactiek*. Ten tweede hadden ze betrekking op *het realiseren van een professionaliseringstraject* dat docenten in staat stelde om hun onderwijsrepertoire uit te breiden door expliciet voort te bouwen op wat ze al doen en waarderen.

Om de didactiek praktisch te maken is gebruik gemaakt van het *Bridging model* (Janssen, Westbroek, Doyle & Van Driel, 2013; Janssen et al., 2015) dat het ontwerpprincipes van modulariteit bevat. Het ontwerpprincipes van zelfevaluatie door de docent is toegevoegd aan dit *Bridging model*. De onderling samenhangende ontwerpprincipes van modulariteit en zelfevaluatie zorgden ervoor dat de docenten de didactiek konden aanpassen aan hun doelen en lespraktijk en in gewenste stappen konden integreren in hun lespraktijk op een flexibele manier.

Ontwerpprincipes voor praktische bruikbaarheid:

1. Beschrijf de reguliere lespraktijk en de gewenste lespraktijk op een modulaire manier in vergelijkbare modules of bouwstenen. In deze studie is een bouwsteen een herkenbaar lessegment van een reguliere vreemde talenles(senserie). Door bestaande bouwstenen volgens een aantal richtlijnen (de ontwerpprincipes van de didactiek) te recombineren, kunnen docenten de didactiek flexibel aanpassen aan hun eigen lespraktijk.

2. Start een professionaliseringstraject met een zelfevaluatie door de docent van zijn/haar huidige lespraktijk en van de innovatieve lespraktijk. Modulariteit maakt gerichte zelfevaluatie mogelijk doordat de huidige lespraktijk en de innovatieve lespraktijk in vergelijkbare bouwstenen van hetzelfde beschrijvingsniveau zijn weergegeven. Op basis van de zelfevaluaties door de docenten van de bestaande en hun gewenste situaties formuleren de docenten doelen en voornemens voor verbetering en kiezen ze hoe ze de bouwstenen van de innovatie (de nieuwe didactiek) in hun lespraktijk integreren. Bovendien maken de zelfevaluaties van de docenten het mogelijk om het professionaliseringstraject af te stemmen op hun behoeften, aangezien het zowel de docenten zelf als de facilitator van het professionaliseringstraject informatie verschaft over wat de docenten doen, ervaren, willen bereiken en welke input en activiteiten nodig en gewenst zijn.

Zelfevaluatie is dus op twee niveaus in deze dissertatie als ontwerpprincipes gebruikt: op het niveau van de leerlingen (zelfevaluatie door de leerlingen van hun eigen gespreksvaardigheid) als ontwerpprincipes om de didactiek adaptief te maken voor de leerlingen en op het niveau van de docenten (zelfevaluatie door de docenten van hun eigen lespraktijk in

gespreksvaardigheid) als ontwerpprincipe om de didactiek praktisch te maken voor de docenten en om het professionaliseringstraject van de docent adaptief te maken.

Theoretische en praktische implicaties, beperkingen en vervolgonderzoek

Het doel van het onderzoek in dit proefschrift was het ontwerpen en evalueren van een praktische, adaptieve onderwijsaanpak voor zelfregulerend leren van gespreksvaardigheid. Op het gebied van kennisontwikkeling over zelfregulerend leren, draagt dit onderzoek bij doordat het theoretisch onderbouwde en beproefde concrete ontwerpprincipes heeft opgeleverd om een iteratief leerproces van zelfregulatie te faciliteren. De resultaten laten zien dat studenten dit proces van zelfregulering daadwerkelijk onafhankelijker konden doorlopen en dat de focus in hun evaluaties en plannen is veranderd. Een beperking van het onderzoek is dat het zich richtte op zelfregulerend leren bij een heterogene groep middelbare scholieren. Verder onderzoek zou moeten uitwijzen of er verschillen in zelfregulatie zijn in termen van leerjaar, leerniveau en taal.

Een van de concrete ontwerpprincipes om het zelfregulerend leren te ondersteunen was zelfevaluatie door leerlingen. Dit onderzoek draagt bij aan onderzoek over self-assessments door de specifieke benadering van zelfevaluatie. Doel van de zelfevaluatie was niet een accurate inschatting door de leerlingen, maar enerzijds het verkrijgen van inzicht voor de docent hoe de leerling zich inschat, zodat afgestemd kan worden bij het huidige niveau en de mate van zelfregulatie van de leerling, en anderzijds leerlingen stimuleren hun eigen leertraject te ontwerpen en uit te voeren in een iteratief leerproces.

Een ander ontwerpprincipe was adaptieve feedback. In overeenstemming met de socioculturele benadering is er in dit onderzoek van uitgegaan dat feedback moet worden afgestemd op de zogenoemde zone van de naaste ontwikkeling van de leerlingen. Socioculturele studies vinden vaak buiten het klaslokaal plaats in één-op-één situaties. Dit onderzoek richtte zich echter op een adaptieve didactiek in reguliere klassen met 25 tot 30 leerlingen. Resultaten over de mate waarin leerlingen de feedback en verbeteractiviteiten als adaptief hebben ervaren bij gespreksvaardigheid roepen vragen op. Aan de ene kant was er geen verschil in hoe adaptief leerlingen verbeteractiviteiten vonden in de pre- en post-metingen en vonden leerlingen uit de experimentele groep de feedback zelfs minder adaptief dan leerlingen uit de controlegroep. Aan de andere kant gaven de tussentijdse metingen die telkens direct na het doorlopen van een specifieke cyclus van de zelfevaluatieprocedure

werden uitgevoerd wel aan dat de leerlingen van de experimentele groep zowel de feedback als de verbeteractiviteiten in de meeste gevallen als adaptief ervoeren. Mogelijke verklaring hiervoor zou kunnen zijn dat de tussentijdse metingen wellicht de perceptie van adaptiviteit nauwkeuriger meten omdat zij gericht waren op een specifieke cyclus van de zelfevaluatieprocedure terwijl de pre- en postmetingen betrekking hadden op gespreksvaardigheidslessen in het algemeen. Een andere verklaring zou kunnen zijn dat leerlingen uit de experimentele groep kritischer zijn geworden door de zelfevaluatieprocedure, door na te denken over de vraag of ze hadden gekregen wat ze nodig hadden. Wellicht werden hoge verwachtingen bij de leerlingen van de experimentele groep gewekt over de mate waarin feedback en vervolgactiviteiten zouden worden afgestemd, omdat hen werd gevraagd hun behoeften aan te geven in de zelfevaluaties, terwijl dit niet werd gevraagd aan de leerlingen van de controlegroep. Tot slot zou een andere verklaring kunnen zijn dat de docenten uit de experimentele groep wel meer adaptieve feedback hebben kunnen geven, maar niet genoeg, bijvoorbeeld door onervarenheid met de nieuwe manier van lesgeven, of omdat tijd ontbrak voor een adequate analyse van de zelfevaluaties en voor het bedenken van adaptieve feedback en leeractiviteiten. Vervolgonderzoek zou verklaringen kunnen zoeken door bijvoorbeeld leerlingen te ondervragen en de voorkeuren van leerlingen met betrekking tot feedback en activiteiten te vergelijken met observaties van de feedback en de daadwerkelijk gegeven activiteiten.

Dit proefschrift draagt ook bij aan onderzoek naar implementatie van onderwijsinnovaties en onderzoek naar professionele ontwikkeling van docenten door aan te sluiten bij een modulaire benadering en daaraan een nieuwe component, die van zelfevaluatie, toe te voegen. Dit element is op twee niveaus toegevoegd: op het niveau van de leerlingen en op het niveau van de docenten. Om de didactiek adaptief voor de leerling maar ook praktisch te maken voor docenten, is de zelfevaluatiecomponent van leerlingen als bouwsteen, ofwel module, toegevoegd hetgeen drie functies dient: het vergroten van het vermogen van de leerlingen om hun gespreksvaardigheid zelf te reguleren; het vergemakkelijken van onderwijs op maat; en een praktische, organisatorische functie, namelijk dat het leren van de leerlingen doorloopt terwijl er meer tijd wordt gecreëerd voor adaptief onderwijs. Uit de resultaten in dit onderzoek blijkt dat docenten de didactiek praktisch bruikbaar vinden, de didactiek konden toepassen in hun lespraktijk en geheel of gedeeltelijk willen blijven gebruiken. Ten aanzien van deze bevindingen moet worden

opgemerkt dat analyses van in hoeverre docenten de ontwerpprincipes van de adaptieve aanpak hebben geïmplementeerd, gebaseerd zijn op gegevens van docenten over hun eigen lespraktijk. In verder onderzoek zou het gedrag van docenten kunnen worden geobserveerd om te achterhalen hoe zij de onderwijsaanpak in hun lessen hebben geïmplementeerd.

Op het niveau van de docent is de zelfevaluatie door de docent van de eigen lespraktijk in gespreksvaardigheid toegepast om leerroutes in het kader van docentprofessionalisering adaptief te maken. Modulariteit en zelfevaluatie maakten het mogelijk voor docenten de innovatieve didactiek te implementeren en af te stemmen op hun doelen en lespraktijk.

Inherent aan ontwerponderzoek is dat het naast theoretische ontwikkeling zich ook richt op de ontwikkeling van oplossingen voor een praktisch onderwijsprobleem. Belangrijke praktische implicaties van de toepassing van de adaptieve didactiek in het onderwijs zijn dat het docenten de mogelijkheid biedt om meer informatie te krijgen over de leerbehoeften van hun leerlingen door middel van de zelfevaluaties en dat dit hen in staat stelt om hun feedback af te stemmen op de leerlingen, waardoor het minder ad hoc wordt. De *SpeakTeach* didactiek biedt de leerlingen ook de mogelijkheid om hun gespreksvaardigheid te verbeteren en de spreekactiviteit opnieuw te doen. Het maakt niet uit hoeveel tijd een docent toelaat om een *SpeakTeach* ronde uit te voeren (een sessie van 10 minuten, een hele les of meerdere lessen), inherent aan de aanpak is dat na de spreekactiviteit verbeteringsactiviteiten worden gedaan en dat vervolgens de spreekactiviteit wordt herhaald. De adaptieve didactiek maakt dat spreektaken geen geïsoleerde taken zijn in een les of lessenserie, omdat het *alignment* creëert tussen leerdoel, spreekactiviteit en andere leeractiviteiten. De aanpak bestaat namelijk uit bestaande lessegmenten, zoals bijvoorbeeld lezen, luisteren, grammatica en woordenschat, die in een samenhangende set van leeractiviteiten als activiteiten ter verbetering worden gebruikt en daarmee dienen om de gespreksvaardigheid te verbeteren. Hierdoor krijgt gespreksvaardigheid een prominentere plaats in de lessen. Er is meer aandacht voor gespreksvaardigheid, zoals docenten van de experimentele groep meldden (zie hoofdstuk 3). Een belangrijk resultaat was dat de adaptieve onderwijsaanpak de leerlingen de mogelijkheid bood om actiever te zijn bij het oefenen van het spreken van moderne vreemde talen, omdat de aanpak vereist dat alle leerlingen spreken, hun gesprek terugluisteren, evalueren, verbeteren en herhalen. Daarnaast boden de zelfevaluaties met verbeteringsplannen van leerlingen mogelijkheden voor meer adaptieve leertrajecten van leerlingen en dus meer

differentiatie van activiteiten, feedback, tempo, werkvormen en variatie in de mate van sturing. Hoeveel zal afhangen van de docent, de leerlingen en hun context. Omdat er allerlei variaties mogelijk zijn met de ontwerpprincipes van de adaptieve didactiek, kunnen de docenten de aanpak aanpassen aan hun onderwijspraktijk. Dit zal ook betekenen dat er veel verschillende *SpeakTeach* praktijken zullen zijn (zie hoofdstuk 3).

De praktische adaptieve didactiek in dit onderzoek is ontwikkeld voor gespreksvaardigheid. De aanpak zou ook toegepast kunnen worden op andere vaardigheden bij moderne vreemde talen. In de eerste plaats zou de flexibiliteit van de didactiek en de manier waarop die in de praktijk wordt gebracht door gebruik te maken van de stappen van het *Bridging Model*, kunnen worden overgenomen voor andere vernieuwingen. Daarnaast zou de manier waarop het ervoor zorgt dat feedback en leeractiviteiten kunnen worden afgestemd op de behoeften van de leerlingen, namelijk door middel van een iteratief leerproces van zelfevaluaties gevolgd door feedback en op maat gemaakte verbeteringsactiviteiten, ook kunnen worden toegepast op verschillende vakken en op andere onderdelen van het moderne vreemde-talencurriculum. Studenten zouden bijvoorbeeld kunnen analyseren wat ze goed hebben gedaan en wat niet tijdens een luistertest, een leestoets of in een zelfgeschreven tekst en vervolgens een verbeterplan kunnen maken en de toets opnieuw afleggen.

Het ontwerpprincipe van zelfevaluatie zou ook kunnen worden gebruikt in andere vakken. Bij bètavakken zouden studenten bijvoorbeeld hun eigen practicumonderzoek kunnen evalueren. De zelfevaluaties beogen de leerlingen bewust te maken van de stappen die ze moeten zetten en tegelijkertijd geven ze de docent inzicht in wat de leerlingen zelf opmerken en begrijpen van hun leerproces en wat zij zien wat verbeterd moet worden. Dit maakt het docenten mogelijk om niet alleen feedback te geven op het uitgevoerde onderzoek, maar ook op de reflecties van de leerlingen, zodat zij hen ook op een regulatief niveau kunnen begeleiden.

Ten slotte kunnen de ingrediënten van modulariteit en zelfevaluatie door docenten inspireren om docentprofessionaliseringstrajecten adaptiever te maken.

Curriculum Vitae

Esther de Vrind (geboren te Ter Aar, 1972) deed in 1990 eindexamen vwo aan het Albanianae te Alphen aan den Rijn. Daarna studeerde zij Franse Taal- en Letterkunde aan de Universiteit Leiden (1990-1995). Zij volgde modules onderwijskunde en didactiek aan Université Charles-de-Gaulle in Lille (1995), behaalde haar eerstegraads bevoegdheid (ICLON, Universiteit Leiden, 1996) en volgde modules psychologie aan de Open Universiteit (2008-2011). Na haar studie Franse Taal- en Letterkunde werkte Esther als docente Frans aan verschillende middelbare scholen, op verschillende niveaus van het voortgezet onderwijs, van (i)vbo tot gymnasium (1996-2010). Daarnaast was zij auteur van lesmethodes Frans.

Sinds 1999 werkt Esther aan het ICLON, Universiteit Leiden, als vakdidacticus Frans, lerarenopleider, docent pedagogiek en nascholer. Bij dit instituut startte Esther in 2014 haar promotieonderzoek naar de ontwikkeling, implementatie en evaluatie van een didactiek voor zelfregulerend leren van gespreksvaardigheid in moderne vreemde talen die adaptief is voor middelbare scholieren en praktisch bruikbaar voor docenten in hun reguliere lespraktijk. Hiervoor heeft zij de *SpeakTeach* didactiek ontwikkeld. Sinds 2019 is Esther tevens teamleider van de lerarenopleiding aan het ICLON, Universiteit Leiden.

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