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# **Optimizing the instructional environment to learn presentation skills**

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## Voorwoord

“Ja, ik wil een doctoraat halen”.

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# Chapter 1

## General introduction

Oral presentation skills are recognised as a central professional skill (Campbell, Mothersbaugh, Brammer, & Taylor, 2001). The European policy makers introduced through the Dublin descriptors a framework of qualifications that higher education aims to adopt, and the “communication” component in these descriptors refers to the capacity of students to present information to an audience (Joint Quality Initiative 2004). In a high number of higher education curricula, courses are incorporated that centre on these particular skills (Morreale, Hugenberg, & Worley, 2006). Some authors (e.g., Cooper, 2005) also discern an evolution whereas the teaching of these skills is becoming a more and more important curriculum element in higher education.

The central research problem of this dissertation is related to the teaching and learning of oral presentation skills. How can we design and develop an effective way to develop these oral presentation skills? This research problem introduces a complex research field that presents questions about the conceptual base, and about the state-of-the-art in theoretical and empirical research in this domain. It introduces the need to make a large set of choices as to the specific research questions that will and will not be dealt with. This explains why we opted to develop this extensive introductory chapter, before presenting the research studies in the subsequent chapters.

This research presented in this PhD, centres on contemporary instructional approaches adopted to develop oral presentation skills. The word *contemporary* implies that a number of specific choices have been made. First, we do not build on traditional rhetoric theory that is rooted in ancient Greek approaches about public speaking. Furthermore, we impose a number of restrictions in relation to the literature studied in view of the research. The search terms *public speech*, *oral presentation* and *oral presentation skills* were combined with search terms such as *teaching*, *learning* or *education*. An exception was made as to studies about the measurement of oral presentation skills in the context of assessment centres. We did however not include research that concentrates on speech apprehension, because this would lead us to the therapeutic domain. Neither did we include literature that solely concentrates on technical aids like PowerPoint. Literature focusing on group presentations was also omitted because

group presentations make it more difficult to assess the progress of an individual learner and because it introduces criteria related to the cooperation between different presenters. In view of the central focus on instructional approaches in the studies reported in this thesis, we especially analyzed the literature about *how* to develop presentation skills, instead of literature about *what* elements constitute a good presentation.

As will be made clear in the different chapters of this thesis, only a small number of evaluative researches have been set up in the field of oral presentation skills. This is in sharp contrast to the actual time and attention paid to the concrete teaching and learning of oral presentation skills (Morreale et al., 2006). In addition, available current instructional practices and related limited research are hardly based on a clear theoretical base. Key questions are raised in the different studies as to processes and variables that can account for giving successful oral presentations. Both processes and variables at the level of the individual learners and at the level of the instructional process will be considered

#### *Structure of this introductory chapter*

After presenting the research problem that is central in the studies of this dissertation, the key concepts used are defined. In this way, we try to formulate answers to questions concerning what is the nature of an oral presentation and why we adopt oral communication. In view of our search for key elements that help to define an instructional design, a clear analysis of defining features of an oral presentation and of an effective oral presentation is presented in the related paragraphs. A further analysis leads to a discussion about the assessment and evaluation of these features.

An overview of the existing literature about the instruction of oral presentation skills, obliges us especially to concentrate on a presentation of a theoretical framework to guide oral presentation skill instruction. We present the social cognitive theory as a framework to help to describe and explain the acquisition of oral presentation skills. Self regulated learning is central to this theoretical position. This theoretical framework introduces key processes that will be described to understand how oral presentation skills evolve and can be influenced from an instructional point of view. The theoretical base will direct the formulation of a series of research questions. Since quasi-experimental studies will be set up, also the “measurement” of the mastery of oral presentation skills is of central importance.



This introductory chapter ends with an overview of the studies reported in this thesis and what research questions are dealt with in the consecutive chapter. In the concluding chapter, we will build on this overview to summarize the research results and put forward theoretical and practical implications. This will be helpful to describe directions for future research in this poorly studied field of instruction.

## **1. Definition of, instruction of, and measurement of oral presentation skills**

### *Defining oral presentations*

In the literature, most authors adopt the term *oral presentation skills* (e.g., Cooper, 2005) or *public speaking* (e.g., Frobish, 2000) but some use terms more adapted to the specific context of their participants like *sales presentations* (Calcich, & Weilbaker, 1992; Conor, 2006), *oral business presentation* (Campbell et al., 2001) or *briefing* (Thomas, Tymon, & Thomas, 1994).

A definition of oral presentation or public speaking is hard to find. We can start with the definition of *speaking* from the National Communication Association (1998, p.4) “Speaking is the uniquely human act or process of transmitting and exchanging information, ideas, and emotions using oral language (...) communicators are required to organize coherent messages, deliver them clearly, and adapt to their listeners”.

A literature search for publications that centre on specific features of oral presentations or public speaking does not result in a rich set of characteristics. Oomkes (2000), for instance, accentuates that speaking in public implies limited interaction because only one person is speaking and others are listening. The size of the audience is however not clearly indicated. Oomkes emphasizes that it is possible to have a big audience but he does not provide a lower limit. The question subsequently arises if we can have a public speech with a very small audience and/or when the audience consists of only one person? We adopt the point of view that at least one person must attend the oral presentation. Oomkes also mentions that public speaking implies a certain mental and physical distance between speaker and audience. Other features are rather general and not uniquely related to public speaking, because these features are not always available. Oomkes mentions that speakers are most of the time not in full control of the situation (e.g., where is the audience sitting).

*Why oral presentations?*

The National Communication Association (Morreale, Rubin, & Jones, 1998) takes over a suggestion from Daly and presents three reasons to adopt oral communication: persuading, informing and relating. These three purposes resemble those from the communication model of Schulz von Thun (1998) that is also used by Wiertzema and Jansen (2004) to describe the different aspects or purposes of an oral presentation, and the types of oral presentations resulting from these purposes. The communication model of Schulz von Thun (1998) discerns four aspects of human communication. The first aspect is about providing content. The second regards self-expression, as communicators reveal their identity and their condition but this last aspect about self-expression is not used by the National Communication Association (Morreale et al., 1998). When communicators make their position clear towards the observer and express what they think of the observer, this constitutes the relational aspect of communication. The fourth aspect is about requests, and reveals what the communicator wants from the observer. It is important to note that presenters can put emphasis on one specific communication aspect, but they nevertheless have to pay attention to all four of these aspects (Wiertzema & Jansen, 2004). The first aspect requires a clear structure, the second is about the way a public speech is delivered, the third aspect deals with keeping contact with the audience and the fourth asks for a clear goal for the presentation (Wiertzema & Jansen, 2004).

When we adopt an oral presentation to provide content –informing the audience - we have to keep in mind that an oral presentation is less suitable for transferring large amounts of information (Steehouder et al., 1999). The authors advice to use written communication when people need to memorise or process a lot of information, and to use a personal or a written communication when people are expected to apply this body of knowledge. Steehouder et al., (1999) add that the great advantage of oral presentations is the direct confrontation between the sender and the receiver of the information, resulting in a larger involvement in the communication.

### *Competence and skills*

An important remark about the terminology has to be made. The title of this dissertation mentions the concept oral presentation skills, because *knowing how* to present is still no guarantee for actually *performing* the expected behaviour. We will elaborate this when presenting our theoretical framework. As we concentrate in our studies mainly on the acquisition/assessment of the “skills” component, and not on the acquisition/assessment of the “knowledge” component, we will especially adopt the concept *oral presentation skills*. This does not imply that we will neglect the fact that acquisition of the knowledge component should be related to the acquisition of the skills component. We certainly also acknowledge the important role played by motivational aspects. The latter are sometimes referred to as the attitudes of the learners and are placed under the heading of *oral presentation competence*, together with the related knowledge base and skills.

A definition of a competence should, according to Van Merriënboer, Van der Klink, & Hendriks (2002), comprise of three elements. The first is *specificity*, because the development of a competence takes place in a specific context. The second element is about the *integration* of knowledge, skills, attitudes and qualities of a person. The third and last element is *durability* and this implies that the oral presentation competency is still valid even when new tools, such as PowerPoint e.g., are being introduced.

A shared core in most definitions of a competence is, according to Baartman, Bastiaens, Kirschner, & van der Vleuten (2007), that it consists of connected pieces of knowledge, skills and attitudes that are used to solve problems. The US based ‘National Communication Association’ (1998) also refers to “knowledge”, “behaviour”, and “attitudes” as key components of the concept competence. We therefore define the oral presentation competence as the combination of knowledge, skills, and attitudes needed to speak in public in order to inform, to self-express, to relate and to persuade.

### *Instruction of oral presentation skills*

In order to design an instructional intervention, we have to be clear about its objectives. We have to determine the outcomes of the intervention focusing on the acquisition and development of oral presentation skills.

The US based National Communication Association is one of the largest associations to promote communication education. We build on two of its publications to delineate the

outcome expectations for high school and college students, and to illustrate the possible content elements. In a first publication of the National Communication Association (1998), the focus is on K12 education. Standard 10 centres on *speaking*, and lists 28 competency statements. We list the eight competency statements that deal with *presentation competences* below:

Knowledge:

- 10.10. Identify strategies for appropriate and effective public communication.
- 10.11. Organize a message appropriately and effectively.
- 10.12. Develop an appropriate and effective introduction, body, and conclusion for a speech.
- 10.13. Choose and narrow a speech topic for a specific occasion.
- 10.14. Select appropriate and effective supporting material based on topic, audience, occasion, and purpose.
- 10.15. Modify a message to fit the audience.

Behaviour

- 10.16. Use verbal and nonverbal techniques to enhance a message.
- 10.17. Adapt language to specific audiences and settings.

In a second publication from the National Communication Association (Morreale et al., 1998), we find a list of four advanced skills as expected outcomes for college students in the domain of public speaking:

1. Incorporate information from a variety of sources to support message.
2. Identify and use appropriate statistics to support the message.
3. Use motivational appeals that build on values, expectations, and needs of the audience.
4. Develop messages that influence attitudes, beliefs, and actions

A search for similar publications relevant for Dutch language speaking regions, we can build on a publication of the Dutch equivalent of the National Communication Association, De Taalunie, about the learning goals for Dutch speaking teachers (Paus, Rymenans, & Van Gorp, 2006). The publication lists a learning goal dealing with presentation skills, and states that teachers should be able to deliver a presentation to inform, to activate and to persuade learners. Several – rather vague - subgoals are mentioned; e.g., a subgoal

stipulates that teachers should be able to deliver a message with the appropriate non-verbal support (Paus et al., 2006).

We can conclude that the outcomes described in the three cited publications are too general to use in experimental or quasi-experimental research, and that we have to find more detailed relevant features of oral presentations to centre upon in instructional interventions. Alternative approaches can be adopted.

A first approach builds on traditional taxonomies of learning objectives (Van Merriënboer & Kirschner, 2001). We can take competency statement 10.11. as an example: Organize a message appropriately and effectively. A task analysis is helpful to yield the necessity to structure a presentation around main points. In order to do this a learner has to be able to manage a lot of information, to distinguish the main points, and so on.

If we consider as another example competency statement 10.16.: Use verbal and nonverbal techniques to enhance a message, a task decomposition requires a very large and extensive process. Task analysis of aspects of nonverbal techniques, such as eye contact, speech delivery, and body language are far reaching. Therefore, we look for more efficient approaches to detect the relevant features of oral presentations.

A second approach builds on the approach of Taylor (1992) who developed a critical incident technique when asking instructors to recall effective and ineffective incidents in student presentations.

Thirdly, we can build on the approach of Estrada, Patel, Talente, & Kraemer (2005) who identified important oral presentation features by asking reviewers to make explicit the features and areas they want to improve in a presentation.

A fourth approach builds on an analysis of the learning content of textbooks used in this context. This exemplified by the strategy adopted by Hess and Pearson (1991), when they examined 12 of the most popular textbooks and identified 24 principles of public speaking.

Fifthly, we can build on the consistent relationship between an instructional intervention and assessment, and therefore analyse assessment instruments used in classroom contexts. Identification of the assessment criteria and the weight attached to the different criteria is helpful to find indicators of what teachers consider of importance when evaluating oral presentations. In the context of the studies in this dissertation, we especially build on this fifth approach, as will be described in a subsequent paragraph.

But before turning to the nature of assessment instruments, critical remarks are to be made. First, we must bear in mind that the importance attached to features considered of importance in oral presentations can change over time. Frobish (2000) for instance points at

the impact of television on the appreciation of the nature of oral presentation skills. Television made audience accustomed to the use of narratives, self-disclosure, and visual modes of persuasion. As a result, these features are now also expected to be presented in non-television delivered oral presentations (Frobish, 2000). Secondly, critical oral presentation features can also fluctuate between cultures. Wiertzema and Jansen (2004) point e.g., at differences between the American culture, where the focus on the speaker gets full attention, and the Dutch culture, where the focus is rather on the content of a presentation. Gerritsen and Wannet (2005) illustrate cultural differences with respect to the evaluation of the introduction in a presentation by people from the Netherlands, France, or Senegal.

### *Measuring oral presentation skills*

We structure the following paragraphs in line with the two aims put forward earlier in this chapter. The first aim was the identification of important features of oral presentation skills as mirrored in assessment instruments. This first aim reflects the validity of a measurement approach. The second aim is to learn how these features are measured, with a clear focus on the reliability of the approach adopted. Additional measurement characteristics that are related to the nature of the learning process will be dealt with later in this chapter.

#### *Exploration of existing instruments to measure oral presentation skills.*

As stated before, the identification of generally accepted assessment instruments is our base to answer this question.

Morreale and Backlund (2007) discuss two assessments instruments for public speaking in their compilation of oral communication assessment instruments in higher education: *The Competent Speaker* from the National Communication Association and *The Public Speaking Competency Instrument* as developed by Thomson and Rucker (2002).

*The Competent Speaker* builds on eight competencies. Four competencies are about preparation (e.g., Provides appropriate supporting material based on the audience and occasion) and four about delivery (e.g., Uses physical behaviours that support the verbal message). Brown, Leipzig, & McWherter (1997) qualify these competencies as too abstract and too distant from the personal experiences of students. They tried to operationalize the eight competencies into more specific and observable behaviour. But no study could be traced that made use of this revised version of *The Competent Speaker*. Nevertheless, the elaboration

of the latter has helped to ground the validity of the instrument of Thomson and Rucker (2002).

*The Public Speaking Competency Instrument* was developed by Thomson and Rucker (2002) and contains 20 assessment items that focus on concrete behavioural elements (e.g., I can identify a review of the main points in the conclusion). No studies could be traced building on this instrument.

Rodebaugh and Chambless (2002) mention the *Rapee Perception of Speech Performance Measure*. But they stress the fact that this instrument is biased towards assessing bad oral presentations.

One particular study compares three assessment instruments and concludes that the three instruments reflect a good validity (Carlson & Smith-Howell, 1995).

In our review of the literature, we observe that authors mostly build on assessment instrument constructed for their particular study (e.g., Crossman, 1996). Another common denominator is the observation that the items of the available assessment instruments can be structured along two dimensions: a content and a delivery dimension (see e.g., Carlson & Smith-Howell, 1995).

#### *How are features of oral presentations measured?*

Assessors, building on *The Competent Speaker*, described in the former paragraph, have to make a holistic judgment about the extent a speaker meets specific criteria by applying the qualifications unsatisfactory, satisfactory or excellent,. Nevertheless, the interrater reliability of *The Competent Speaker* is reported to be good (Morreale & Backlund, 2007). Dunbar, Brooks, & Kubicka-Miller (2006) suggest that the reliability is especially positively influenced by the limited amount of response categories, but that this negatively influences the feedback possibilities. The latter is expected to influence the potential of learning process. *The Public Speaking Competency Instrument* of Thomson and Rucker (2002) uses a Likert scale with five possible scores: poor (1), fair (2), average (3), good (4), and excellent (5), and also reflects a good reliability.

An analysis of the available studies building upon a self constructed assessment instrument reveals many differences with regard to their measurement approach. Firstly, the amount of items is very different. Daly, Vangelisti, and Weber (1995) for instance, developed a four item instrument. Wiertzema and Jansen (2004) used a 31 item instrument. Secondly, some questionnaires ask for a holistic appreciation, and others ask a very detailed analysis of

oral presentation performance. A typical example of the latter is the questionnaire used in the study of Carlson and Smith-Howell (1995). Their subscale *Presentation* and *Delivery* ask to give a score on 30 points, and builds on ten items (e.g., gestures/movement) that are listed without giving examples or explaining the weighting of the different items. Carlson and Smith-Howell (1995), It is striking that the authors report a good reliability level of this instrument, and that the use of the instrument without specific training or experience is possible without a negative impact. In the study of King, Young, & Behnke (2000), eye contact is defined as the number of times the speaker looks up and the length of the introduction is measured in seconds. This quantitative approach leaves no room for quality assessment and does not relate “looking up” to effective eye contact with the audience, nor does this approach relate the length of the introduction to the efficacy or impact of the introduction. A high score for these two indicators can be heavily biased. This is a typical situation where a high reliability can be at the expense of a low validity of the measurement. Jonsson and Svingby (2007) stress that this is particularly the case when the performance assessment criteria are too open. Wood, Marks, and Jarbour (2005) remark that sufficient detail in assessment criteria and indicators is often sacrificed in view of facilitation the assessment activity. An attempt to introduce qualitative elements in assessment criteria and indicators results in many cases in subjectivity, and can have a negative impact on interrater reliability (Cooper, 2005). Woolf (2004) suggests therefore that assessment of this type of academic performance is closer to an “art” than to a “science”. Examples of subjectivity is already evident in the language used; we refer in this context to words, such as *competent* (Pittenger, Miller, & Mott, 2004), *appropriate, relevant, and effective* (Cooper, 2005). Providing examples (e.g., Pittenger, et al., 2004) is the most cited solution to this problem.

Next to differences, there are also similarities between assessment instruments. Most instruments build on a Likert scale to rate performance (e.g., Brown & Morrissey, 2004), and are complemented with sets of examples, as indicated earlier. When samples of behaviour are supplied as examples, assessment instrument are often labelled as *rubrics*. This approach is helpful to distinguish between levels of performance in view of a particular criterion (Hafner & Hafner, 2003). The adoption of a rubric therefore helps to boost the reliability of the assessment instrument, and procedure (Jonsson & Svingby, 2007).



## 2. Teaching and learning of oral presentation skills: a review of the literature

As explained before, earlier studies about instructional interventions to develop oral presentation skills reflect a weak theoretical and empirical base. They are also very varied in the way instructional interventions are contextualized. Several studies are situated in an economic department (e.g., Brown & Morrissey 2004) or in the medical department (e.g., Sarang, Kogan, Bellini, & Shea, 2005), but we also found studies in many other departments like law schools (Cooper 05; Edens, Rink, & Smilde, 2000); the geography department (Church & Bull, 1995; Hay, 1994); applied sciences (AlFallay, 2004); psychology (Taylor, 1992), and with nurses (Higgins & Nicholl, 2003), international postgraduate research students enrolled in several disciplines (Adams, 2004), Chinese engineering students (Mueller, 2000), US. Naval Officers (Thomas et al., 1994) or culinary arts and pastry arts students (Crossman, 1996) as participants.

To structure the large variety of studies, they are discussed by distinguishing two clusters of studies: (1) studies that centre of the way the instruction interacts with learner *behaviour*, and (2) how *person* related variables interact with the instructional intervention and subsequent *behaviour* of learners. We recognize that it is not always easy to categorize studies on this basis, but in most studies one of the determinants is stressed. In addition, this clustering will also facilitate the subsequent elaboration of a theoretical framework.

### *Instruction and behaviour*

According Taylor and Toews (1999), a focus on instructional variables introduces four key elements that define the learning environment: (1) First, learners need to know what to do; (2) they need to master the basic and conditional knowledge in view of concrete performance; (3) the beliefs of learners about their oral presentation skills should be considered; and (4) learners should learn from their experience. Hay (1994) adds to this the importance to initially reduce presentation fear. As will become obvious in the next paragraphs, also other instructional components are explicitly discussed, such as delivery format, feedback, the nature of assessment approaches, etc.

Levasseur, Dean, & Pfaff (2004) interviewed teachers during advanced public speaking courses about their pedagogical practices. The results reflect the key elements mentioned by Taylor and Toews, such as learning from theory and models, practice, feedback, and self-criticism. But Levasseur et al. also reported a tension in the teachers

between (1) their theoretical conceptions and actual instructional practices, and (2) between form and process. The latter tension refers to instructors who either spend more time on additional speech genres or on the thought process to analysing speech situations (Levasseur et al., 2004).

In the research literature about oral presentations, a number of studies focus in particular on the delivery format for instruction. Tanian and James (2002) compared e.g., a face to face course with a print-based self-study course in which students videotaped their own presentations outside the classroom. He concluded that the latter approach was not as effective as the face to face approach in the classroom with a live audience.

Aitken and Shedletsky (2002), Clark, and Jones (2001) and Benoit and Benoit (2006) report about online instructional models for public speaking courses. Aitken and Shedletsky (2002) adopted an online interactive textbook but reported that most students still are present on the campus to deliver their speeches. Clark and Jones (2001) gave students the option between an online and a traditional format, and compared communication apprehension and self perception of public speaking abilities. No differences were found, but Clark and Jones (2001) warned that not all students fare equally well with either format, because they observed clear differences in students preferences for a specific format. The online format was e.g., preferred by males, and by learners who rated themselves as good independent students (Clark & Jones, 2001).

Calcich and Weilbaker (1992) studied the optimal number of presentations in view of enhancing presentation performance, and found that giving two presentations was better than giving one or more than three presentations.

The following instructional elements seem to have been studied in most detail in the literature: behaviour modelling and the delivery of feedback. In a series of studies, behaviour modelling has been adopted as the key instructional strategy to help learners to develop the oral presentation skills. Behaviour modelling is for instance used by Adams (2004), Pittenger et al. (2004), Taylor (1992), Tucker and McCarthy (2001) and Wiese, Varosy, & Tierney (2002). Adams (2004) compared the learning impact of working with non-expert and expert models, and found a puzzling lack of learning from the expert models and a significantly larger learning gain when students observed the non-expert. Pittenger et al. (2004) also reports about the involvement of a mix of “good” and “weak” model speakers whereas Taylor (1992) only adopted a “good” model.

A number of studies centre on learning from getting feedback after giving oral presentations. Bourhis and Allen (1998) summarized twelve studies about the use of

videotaped feedback and found a positive effect on public speaking skills and on attitudes of students towards the course. Since results also indicated that there was no significant increase in anxiety in the presence of a camera, Bourhis and Allen (1998) concluded that videotaped feedback could be an effective instructional strategy for teaching oral presentation skills. Hinton and Kramer (1998) explored the impact of video feedback related to oral presentations, on students' self-reported levels of communication competence and apprehension. They found limited support for their hypotheses. Results suggested a differential impact depending on initial competency and apprehension levels. Jensen and Harris (1999), and Voth and Moore (1997) studied the instructional benefits of incorporating videotaped speeches in a public speaking portfolio, and reported next to general benefits of portfolio use, such as learning through self-assessment, also benefits specific to the use of video like the possibility to do repeated observations of (parts of) their speeches on their own or in the presence of the teacher. They also mention that these videotaped speeches are tangible evidence of their competence to potential employers (Voth & Moore, 1997). King et al., (2000) examined the efficacy of immediate feedback during presentation performance versus delayed feedback. They found that immediate feedback was superior to influence processes that are rather immediate (e.g., enhancing eye contact). Delayed feedback was superior to influence that required deliberative and effortful processing (e.g., changing the length of an introduction of a presentation). Haber and Lingard (2001) conducted a small-scale qualitative study and warn that implicit and a-contextual feedback generates dysfunctional generalizations. Smith and King (2004) reported that students differing in feedback sensitivity, reacted differently to high or low intensity feedback.

A growing number of studies report the adoption of peer- and self-assessment in the learning process of oral presentation skills (AlFallay, 2004; Campbell et al., 2001; Cheng & Warren, 2005; Hafner & Hafner, 2003; Hughes & Large, 1993; Jensen & Harris, 1999; Langan et al., 2005; Magin & Helmore, 2001; Oldfield & Macalpine, 1995; Patri, 2002; Price & Cutler, 95; Selinow & Treinen, 2004; Voth & Moore, 1997). In some studies, only part of the research focuses on peer or self-assessment (e.g., Fallows & Chandramohan, 2001). In other cases, group presentations are assessed (e.g., Miller, 2003) or assessments centres are set up (e.g., Clapham, 1998) that comprise an oral presentation. For a detailed analysis regarding the literature on peer and self-assessment of oral presentation skills, we refer to the theoretical and empirical base of the study present in chapter 4.

*Person related variables, instruction and behaviour*

The importance of person related variables in relation to instruction, and behaviour is clear from the available studies. These studies seem to help to answer three basic questions: (1) Can I carry out this presentation task; (2) Why am I doing this presentation task, and (3) How can I carry out this presentation task (Miltiadou & Savenye, 2003).

Answers to the first question stress a persons' individual perception of his/her abilities. This is generally described as self-efficacy (Brown & Morrissey, 2004). Adams (2004) detected that observing a non-expert model enhances to a larger extent self-efficacy, as compared to observing an expert model. Two other studies reported an enhancement of presentation self-efficacy. Brown and Morrissey (2004) used a verbal self guidance training and Tucker and McCarthy (2001) used service-learning to influence presentation self-efficacy. In the latter study it is hypothesised that self-efficacy is influenced by influencing attribution processes of learners (Tucker & McCarthy, 2001). When presentation self-efficacy is very low, this is referred to as speech anxiety (see e.g., Behnke & Sawyer, 2000).

Why should I perform this presentation task? The only study dealing with this question is a correlation study by Carrell & Menzel (1997) who found that the motivation of learners is positively associated with their public speaking competence.

How can I perform the presentation task? Menzel and Carrell (1994) found that the quality of speech performance correlated positively with preparation time and number of rehearsals. But, several other authors warn that more preparation is not effective for all presenters because it is also important what activities presenters deploy during preparation (see e.g., Ayres, 1996; Carrell & Menzel, 1997; Thomas et al., 1994).

*Some conclusions based on the literature review*

In the former paragraphs, a set of studies about oral presentation skills has been discussed. A number of critical observations have to be made.

If authors refer to a theoretical framework, this framework – implicitly or explicitly - mostly builds on observational learning or modelling. Studies that refer to self-efficacy, also adopt a motivational construct that is connected to the same theoretical framework. However most of the literature concerning in the domain of learning and teaching oral presentation skills, is characterized by rather a-theoretical conceptions and approaches. This first weakness

points at an urgent need to approach oral presentation skills from a comprehensive theoretical perspective.

A second weakness observed in the available studies is the lack of empirical evidence supporting the claims of the instructional interventions, or the impact of particular person related variables. This is also partly related to the research design of many studies. Bayless (2004) did e.g., not adopt an experimental design and did not provide quantitative evidence supporting changes in oral presentation skills. Neither did Grace and Gilsdorf (2004). Green et al. (2005) report a general increase in grade average scores of students being rated as excellent in oral presentation skills as compared to a previous academic year; but this increase is not statistically tested. Calcich and Weilbaker (1992) reported significant differences in a number of quantitative measures but without controlling for initial differences.

In addition, different studies report conflicting or very different results. Seibold, Kudsı, & Rude (1993) cites a study reporting a 20% gain in oral presentation skills, but without involving a control group. Students in a study of Wiese et al. (2002) achieved an increase of 35% in presentation quality scores. In contrast, Crossman (1996) rather reported a small increase, between 3.9% and 11.6% in five different presentation skills areas. In the study conducted by Seibold et al. (1993) 12 out of 16 presentation skills had improved. Yu (2002) also reports that students in his small scale study did not improve on all the presentation skills.

### **3. Learning and teaching oral presentation skills: towards a theoretical framework**

#### *The social cognitive perspective and self-regulated learning*

As stated above, the literature does not provide us with an all-embracing theoretical framework to ground approaches towards learning and instruction of oral presentation skills. Few studies present a clear link between a theoretical framework and a specific research design.

As suggested earlier, we adopt a social cognitive theoretical perspective towards self-regulated learning to develop a theoretical base for oral presentation skills instruction (Bandura, 1997; Schunk, 2001a). The choice of this theoretical framework is influenced by a number of considerations. First of all, we want to build as much as possible on the *available literature* about the instruction of oral presentation skills. Since we could conclude that

behaviour modelling and feedback play a dominant role in earlier studies, these constructs fit the proposed theoretical framework. Modelling is central to the theory of Bandura (e.g., Bandura, 1986) and feedback plays a dominant role in the production processes of self-regulated learning (e.g., Nicol & Milligan, 2006). This is also the case for the self-efficacy construct (e.g., Bandura, 1997). Another consideration arises from the long term character of the *development process* of oral presentation skills, described as central professional skills. We consider that learners will be able to display personal initiative, perseverance, and adaptive skills. This fits into the definition of self-regulated learning as stated by Zimmerman (2001). A third consideration is that the social cognitive theory is very well suited to explain the development of *complex* behaviour such as oral presentation skills (Bandura, 1986, 2005). This theoretical approach has especially been adopted in competency training settings. According to Taylor, Russ-Eft, and Chan (2005) this perspective "...has become one of the most widely used, well-researched, and highly regarded psychologically based training interventions approach..." The choice for this theoretical approach is also in line with the "behaviour modelling" approach mentioned earlier. The emphasis on the self-regulated nature of learning is also in accordance with current views of learning that see *students as active* "seekers" and "processors" of information (Schunk, 2001a). Like Zimmerman (2000, p.14) we refer to self-regulation as "(...) self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals". As indicated in the overview of Zimmerman (2001) there are a variety of learning theories focusing on self-regulated learning. It follows from our initial choice for the social cognitive theory, that we adopt the social cognitive view towards self-regulated learning (e.g., Schunk, 2001a). Because we are particularly interested in the development of skills, and will research what learners show and not what they know, *motivation* will be crucial. Consequently we have to turn to a theory in which motivation plays an important role. Within the variety of motivation oriented theories, we do not take extreme positions such as the view that motivation stems from external rewards (see operant learning approach) or the view that motivation arises from a sense of self-esteem (see phenomenologists). We rather adopt an in-between position, as reflected in the social-cognitive perspective towards motivation (Zimmerman, 2001). The volition view introduces the motivational construct "volition". This introduces a discussion in which we follow Zimmerman and Schunk (2001) who state that there might be a reason to question if this construct is not related to the motivational constructs "expectation" and "goal". The social cognitive approach nevertheless stresses the importance of volition by referring to some drawbacks of the Vygotskian point of view (Schunk & Zimmerman, 1997).

Schunk and Zimmerman refer to the assumption of Vygotsky that modelling leads to passivity and conclude that an extra emphasis is necessary on the motivational processes in interaction with learning processes.

In the next paragraphs we elaborate in detail the social cognitive approach towards human behaviour and learning, and the conceptual base regarding self-regulated learning. This will help to develop a list of operational research questions as an introduction to the build-up of this dissertation.

### *The social cognitive view towards human behaviour and learning*

The social cognitive theory adopts an “agentic” perspective toward human functioning, and distinguishes four core properties of human agency (Bandura, 2006): intentionality, forethought, self-reactiveness, and self-reflectiveness. *Intentionality* and *forethought* imply that humans shape their behaviour on the base of clear intentions, implicit/explicit goals, and anticipated outcomes. *Self-reactiveness* implies that people motivate themselves to monitor and self-regulate their actions. *Self-reflectiveness* causes humans to reflect upon their actions and thoughts, and look for adjustments if necessary.

It is interesting to notice that the social cognitive view is compatible with behaviourist approaches that stress the role of reinforcement. Bandura recognizes the role and impact of direct reinforcement when e.g., a learner reproduces the observed model behaviour, and subsequently receives a reward (vicarious experience). But, Bandura does not simply “copy” the role of rewards in his theory. He adds to the reinforcement construct the role of forethought and anticipated outcomes; thus giving a central role to internal cognitive processes of learners in the learning and reward cycle. (Woolfolk, Hughes, McMillan, & Walkup, 2008). This helps to distinguish the social cognitive view from basic behaviourist approaches.

A basic assumption of the social-cognitive framework is that behaviour is not only influenced by individually anticipated outcomes, but by a combination of environmental factors (e.g., an instructional intervention) and personal characteristics (Urduan & Schoenfelder, 2006). This originates from the triadic reciprocal causal model of human functioning of Bandura (1997) who discerns three major classes of determinants of human functioning: behaviour, personal factors, and the environment (see figure 1.1). Applied to the object of our research, this implies that oral presentation-performance (*behaviour*) is the result of the interaction of instructional intervention (*environment*) and student characteristics

(*personal factors*). Reciprocity indicates that oral presentation performance, the instruction, and the students' characteristics influence one another bi-directionally as depicted below in figure 1.1. We illustrate the reciprocal nature of the relationships with a number of examples:

- *Reciprocity between instruction and oral presentation performance*: the instructor can ask to deliver a 2 minute speech, but when students run out of time during their oral presentation, he adds another minute to carry out the assignment.
- *Reciprocity between learner characteristics and instruction*: when students are hesitant to speak in public, the teacher alters the instruction – e.g., he adopts a small group settings instead of whole-classroom instruction - in order to make the learners feel more comfortable and be more confident.
- *Reciprocity between presentation performance and learner characteristics*: giving a good presentation performance can boost student beliefs about their capacity to speak in public (self-efficacy), consequently these beliefs can boost performance during a subsequent oral presentation.

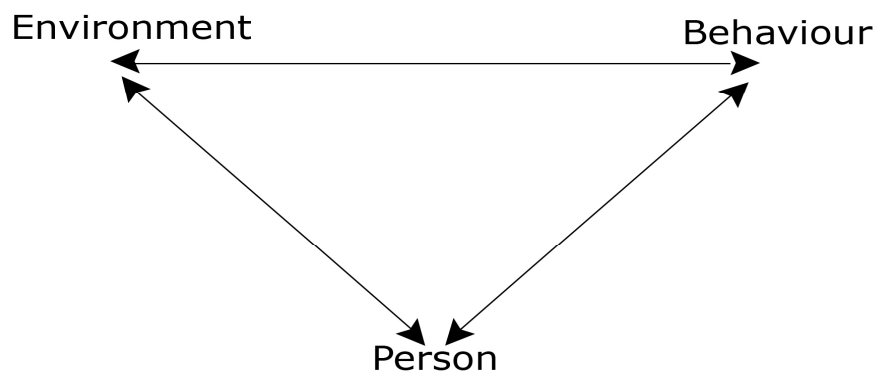


Figure 1.1. The triadic reciprocal causal model of human functioning.

Bandura (1986) starts his description of observational learning with the remark that if we would only learn through experience, learning would be greatly retarded. Fortunately, he adds, most human behaviour is learned by observation through modelling (Bandura, 1986). A common misconception about modelling is, that it resembles mimicry or imitation processes (Bandura, 2005). Modelling has a much specific function, as will be explained in the next paragraphs.



Modelling helps the learner to abstract information about the structure of the observed behaviour and to extract the underlying principles that govern this behaviour (Bandura, 2005). Secondly, modelling deals with inhibitory and disinhibitory effects about behaviour previously learned (Bandura, 1986). In the context of modelling, the following three questions are crucial: (1) Can I perform this behaviour?; (2) What are the consequences of performing this model behaviour?; (3) Will I experience similar consequences when performing the observed behaviour? If the answers to these questions are positive, inhibitions to perform the observed behaviour will be weakened, resulting in the disinhibitory effect of modelling.

Observation of a model is but a first step in learning new behaviour. According to the social cognitive theory, this learning cycle is governed by four constituent processes, namely attentional processes, retention processes, production processes, and motivational processes (Bandura, 1986). In the course of this learning cycle, the learner first has to pay sufficient attention to the model and the knowledge/skill to be learned (attentional processes), and has to process and store the information obtained in this way (retention processes). Next he/she has to apply the newly stored knowledge/skill (production processes). The learner has to be sufficiently motivated throughout the whole process (motivational processes). The four sub-processes will be outlined below in view of grounding the instructional design of an instructional intervention to support the development of oral presentation skills. We complemented the social cognitive theory with findings from the cognitive load theory and the cognitive multimedia theory. In a systematic way, we will link the theoretical base to the teaching and learning of oral presentation skills.

#### *Attentional processes.*

The learning process cannot start unless learners accurately observe what has to be learned from the model, and several factors related to the model and to the observer influence this observation. The attractiveness of a model and contrast modelling of poor and good performance can help to heighten attention. Baldwin (1992) and Schönrock-Adema (2002) found that trainees who were exposed to both positive and negative models achieved higher scores on behavioural generalization. Attentional involvement is also affected by the consequences experienced by the model because performance that is rewarded gets more attention. The observers' cognitive skills and prior knowledge but also the anticipated benefits of modelled skills will influence his perception.

*Retention processes.*

The learning process is halted unless the demonstrated behaviour, reflecting the standards and criteria, is processed, and stored in memory. It might also be possible that processing the full content of the demonstrated behaviour is hindered, because of capacity limitations of working memory. We come back to this limitation, when discussing cognitive load theory (see e.g., Sweller, Van Merriënboer, Paas, 1998). The retention processes build on the human cognitive architecture that reflect a limited working memory and an unlimited long-term memory. In long-term memory we can store schemas that integrate several elements and help to free working memory capacity (Sweller et al., 1998). Cognitive load theory helps to understand how information presentation in e.g., an instructional intervention helps or inhibits the retention processes and subsequent storage of information in long-term memory (Sweller, 2006). This builds on a clear distinction between three sorts of cognitive load. *Intrinsic cognitive load* refers to the intrinsic complexity of the learning content being studied and represented. Intrinsic cognitive load cannot be prevented. In contrast, the two other types of cognitive load can be influenced through instructional design. The way the material is – badly - represented can invoke cognitive load; this is called *extraneous cognitive load*. In contrast, when supportive representations have been developed or used, it will lessen cognitive load, resulting in what is called *germane cognitive load*. In this case, the representation (e.g., the multimedia design) of the instruction promotes the development of schemas, and subsequent storage in long-term memory. Using tables, graphical representations, animations, etc. can therefore help to decrease extraneous cognitive load, and increase germane cognitive load. A variety of design principles can be adopted to increase germane cognitive load (Sweller, 2006).

In the context of instruction that fosters oral presentation skills, the multimedia nature of the instruction format will be of importance. The cognitive theory of multimedia learning (Mayer, 2001) stresses e.g., the importance of presenting information in a visual and an auditory way; this is also referred to as the ‘dual channel assumption’ (Paivio, 1978). Retention is enhanced when instruction presents the learner with both visual and audio cues. An advantage of respecting the dual-channel assumption is that we can manage the cognitive capacity of both cognitive processing channels. Recently also Wouters, Tabbers, and Paas (2007) presented comparable instruction guidelines to promote learning on the basis of video-based models. Next to the above, he stresses the importance of pacing. Higher learning performance is associated with learner-control of e.g., the video based instruction materials

(e.g., control of speed, backward and forward screening). In this way learners are able to “adapt” the video-based model to their cognitive needs.

#### *Production processes.*

The social cognitive learning perspective stresses the importance of giving opportunities to practice behaviour that has been modelled and processed in view of retention in long term memory. This implies that we have to invite learners to perform the expected specific behaviour. This behaviour will elicit feedback when it has been assessed. This introduces a issues that have to be considered when developing instructional formats to develop oral presentations skills.

*The role of assessment in learning and instruction of oral presentation skills.* We already stated that feedback and assessment are key topics in the available research literature about the learning and teaching of oral presentation skills. But feedback and assessment also play a crucial role in the learning circle according to the social cognitive perspective. This also fits into the current trend in didactical theories to integrate assessment into the learning process. This is in particular clear when we observe an increased implementation of self- and peer assessment approaches and the growing use of assessment as a tool for learning (Segers, Dochy, & Cascallar, 2003). The same applies for the teaching and learning of oral presentation skills. Because of this, we discuss these topics more in detail. We start with defining the key concepts *assessment* and *feedback*, next we introduce the concepts *monitoring* and *calibration* and end with observations about *internal* and *external* feedback.

*Defining assessment.* In line with Baartman, Bastiaens, and Kirschner (2004) we adopt the British definition of *assessment*, referring to methods for measuring as well as judging a learner’s competence. This is different from the American definition that limits assessment to the actual measurement and requires the use of the additional concept *evaluation* to refer to the judgment about the behaviour being assessed (Baartman, et al., 2004).

A typical dichotomy in concepts related to assessment is based on formative and summative assessment (Russell, Elton, Swinglehurst, & Greenhalgh, 2006). Formative assessment is defined as “assessment that is specifically intended to provide feedback on performance to improve and accelerate learning” (Nicol & Milligan, 2006, p. 64). Summative assessment is concerned with summarizing the achievement status and is used at the end of a

course, especially for the purpose of certification or qualification (Sadler, 1989). The difference between the two functions of assessment is not always clear. Taras (2005) notes in this context that formative feedback is in fact a type summative assessment (the judgment) enriched with feedback. Summative assessment largely remains the responsibility of teaching staff (see e.g., Curle, Wood, Haslam, & Stedmon, 2006).

In this dissertation we focus especially on formative assessment and analyse the possible role of learners in this process. Involvement of students in assessment can be organised in two ways: peer assessment and self-assessment. In peer assessment, according to Falchikov (2005, p.27), “(...) students use criteria and apply standards to the work of their peers in order to judge that work”. Building onto the latter definition, we state that in self-assessment students use criteria and apply standards to their own work in order to judge that work.

Integrating assessment into the learning process, directs the attention to the influence of assessment on the actual learning process. This is referred to as the consequential validity of assessment. Consequential validity is important since it determines the extent to which learners will make use of feedback information in their later learning process (Gielen, Dochy, & Dierick, 2003). Next to this post-assessment effect, there is also a learning effect during assessment when learners need to reorganise their knowledge or use it in a different way (Gielen, et al., 2003).

This shift in the place and role of assessment in the learning process is sometimes called a change from a *psychometric* view to an *edumetric* view (Gielen, et al., 2003). The latter position builds on criterion referenced measurement that helps learners to compare their own performance to specific criteria. The psychometric position rather compares learners to each other (Baartman, 2008). This shift also explains the hypothesis of Gibbs and Simpson (2004) that feedback that is imperfect from a psychometric point of view but delivered immediately after performance, might have a stronger impact than feedback that is perfect from a psychometric point of view but provided four weeks later. Gibbs and Simpson (2004) furthermore stress that assessment will only support student learning, when sufficient feedback is given, when the feedback is received and attended to, and acted upon by the learner. Yorke (2007) however regards these extra requirements as too teacher-centred that also ignore the affective dimension in learners.

*Defining feedback.* Nicol and Milligan (2006, p. 64) give the following definition: “feedback is information about how a student has performed in relation to some standard or goal

(knowledge or results)”. Because we want learners to use the information provided, we adopt in this dissertation the definition of Taras (2005, p.470) “Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way”.

Feedback is critical to enhance learner achievement (Marzano, Pickering, & Pollock, 2001). But King et al. (2000) warn about the naive assumption that “more” feedback is better. Also Kluger and DeNisi (1996) argue that negative side-effects of feedback are ignored by researchers and identify a number of variables that moderate the effect of feedback; e.g., the nature of the task. The former makes it clear that feedback has to meet some requirements in order to be effective. Nicol and Milligan (2006) propose seven principles for delivering good feedback. We build on two of his principles. The first principle requires to clarify what “good” performance is. This can be linked to the third component of the modelling process, the production subprocesses (Bandura, 1986). The second principle states that “good” feedback should facilitate the development of self-reflection and self-assessment. Nicol and Milligan (2006) advice to use self-assessment tasks to achieve this goal. To conclude, we add that according to William (2008) feedback should cause thinking and provide guidance for improvement and consequently look forward to the next assignment, and should therefore be used during successive performance.

*Monitoring and metacognitive monitoring.* Feedback can be *external* or *internal*. Instruction can provide external feedback, but has to foster at the same time the development of internal feedback mechanisms. The ultimate goal is that learners adopt self-monitoring. Winne (2004) distinguishes between monitoring and metacognitive monitoring. Monitoring happens when someone compares his/her presentation with a standard about e.g., ‘giving a conclusions during a presentation’ and notices that he/she did not present a final conclusion. Metacognitive monitoring implies that the same person continuously screens the personal behaviour by saying “I have to think in advance about conclusions and write them down....” Metacognitive control interferes with actual performance and is related to decision making about continuing, adapting or abandoning behaviour. If monitoring is the basis of metacognitive control, it has to be accurate. For instance, when somebody concludes during monitoring that he speaks loud enough, although this is not the case, he will make the wrong decision and will not adapt his behaviour. This is called “poor *calibration*” of behaviour.

*Calibration.* “Calibration is a measure of the relationship between confidence in performance and accuracy of performance” (Stone, 2000, p.437). Accurate calibration seems a necessary condition for productive self-regulating learning (Winne, 2004) and to attain a high achievement level (Garavalia & Gredler, 2002). The question arises how well learners are capable to assess their own performance. Building on a meta-analysis of research about self-assessment Falchikov (2005) concludes that some students seem to master this ability, but other not. Some authors (Kruger & Dunning, 1999) state that students, who are less skilled, overestimate their performance and miss the metacognitive ability to calibrate their performance. Rust, Price, and O’Donovan (2003) come to the conclusion that women are more likely to underestimate their performance, whereas males tend to overestimate the quality of their performance in a self-assessment context.

External and accurate feedback can enhance calibration (Stone, 2000). Watching one’s own recorded oral presentation can be an excellent help to provide accurate feedback information, resulting in higher performance (Bourhis & Allen, 1998). We can relate this instructional design guideline to the observation of Schunk (2001a), who reported that self-modelling by observing one’s own videotaped performance brought about significant cognitive and behavioural changes.

In addition, experts can provide additional external feedback. Recent studies point especially at peers as providers of external feedback (Birenbaum, 2003). This leads us to the question about the quality of peer assessment or how this assessment approach resembles teacher assessment. It can be stated that peers are susceptible to the same rating errors as teachers. Rating errors that are applicable to peer assessment have been summed up by Sluijsmans, Moerkerke, van Merriënboer, and, Dochy (2001) and comprise personal differences in standards and rating styles, the extent to which they distribute grades, and different opinions about the rating tasks.

Hanrahan and Isaacs (2001) have raised concerns about student perceptions of peer assessment, and their analysis revealed eight general dimensions and twenty higher order themes. Their results showed that students were for instance concerned about their inexperience with marking, that they felt uncomfortable critiquing each others’ work and remarked that the process was not taken seriously because it did not count for final marks. Students also complained that it was too time-consuming and asked for feedback about their assessment (Hanrahan & Isaacs, 2001). Despite these problems, Falchikov (2005) concludes on the base of her meta-analysis that there is a strong correlation between peer and teacher marks (mean overall value  $r = .69$ ).

In summary, three sources of feedback can be used to direct and influence production processes: (1) information obtained via self-assessment, and external feedback sources from (2) peers, or (3) experts during formative assessment activities. The former makes clear that the production processes build on assessment that is geared towards providing learners performance feedback in view of improving and accelerating learning (Sadler, 1998).

*Motivational processes.*

Bandura (1986) makes a clear distinction between “acquisition” and “performance” because learners do not always demonstrate what they learned. This is especially the case when what is learned has little functional value or when weak performance results in negative reinforcement (Schunk, 2001a). Learners are more likely to perform what they have observed if it results in *valued* outcomes and if they *expect* to receive positive outcomes when performing demonstrated behaviour. This introduces in this context the need to define motivation. Linnenbrink and Pintrich (2002) subdivide the motivational constructs found in the literature into four families of motivational beliefs: self-efficacy, attributions, intrinsic motivation and goal orientations. Later, Pintrich (2003) expanded the four families with an additional construct: task-value. Below, the five constructs and their interrelationships will briefly be described.

*Self-efficacy.* Bandura (1997, p.3) did define self-efficacy as: “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments”.

Correlational and experimental studies demonstrate that learners with a positive self-efficacy are more likely to work harder, are more persistent, and attain higher achievement levels (Linnenbrink & Pintrich, 2002). A limited number of studies report negative effects of self-efficacy on performance, due to overconfidence (Vancouver, Thompson, Tischner, & Putka, 2002). Self-efficacy beliefs vary in level, strength, and generality (Pajares, 2002). Holladay and Quinoñes (2003) suggest that level and strength are a single factor in self-efficacy.

Bandura (1997) discerns four sources of self-efficacy. The first and most important source is *enactive* mastery experience. A successful performance generally raises self-efficacy and repeated successful performance generally lowers themselves-efficacy. It has to be stressed that the changes in self-efficacy are the result of active cognitive processing of the information about this performance. The cognitive processing encompasses the interpretation

of personal factors like preconceptions about personal capabilities and perceived effort, and the interpretation of situational factors such as perceived task difficulty and aid received. The second source of self-efficacy is the *vicarious experience* or modelling. Since social comparison is important, models who share common attributes with observers, produce significantly greater gains in self-efficacy (Adams, 2004; Baldwin, 1992; Schunk, 2001a). Tucker and McCarthy (2001) report comparable results and argue that people observing successful peers, report subsequently higher self-efficacy levels. “Coping” models that overcome their initial difficulties exert a larger impact on self-efficacy than “expert” models that perform without any difficulty. Self-modelling is a special sort of modelling in which people observe their own successes (Bandura, 1997). Also self-modelling can enhance self-efficacy. The third source of self-efficacy is *verbal persuasion* and can be linked to giving feedback after performance. The fourth and last source of self-efficacy is the *physiological and affective state*. People develop for a higher self-efficacy level when they are calm.

*Attribution.* Attribution theory refers to the perceived causes for success or failure by learners. These perceived causes influence expectations about future success (Eccles & Wigfield, 2002). Three causal properties are distinguished: locus, stability, and controllability (Weiner, 2005). Locus refers to the location of the cause in or outside the learner. Stability is about the duration of a cause that can be constant or temporary. Controllability refers to a cause that is, or is not, subject to volition. Stability is linked to the anticipation of the same success or failure. Internal locus is related to feelings of pride and an internal cause that is perceived as controllable can generate feelings of guilt or shame (Weiner, 2005). Not only attributions by learners, but also attributions about causes presented by teachers, peers and others have an impact. Weiner (2005) indicates that intrapersonal and interpersonal attributes interact with each other and can result in paradoxical results.

*Intrinsic motivation.* Intrinsic motivation is the internal motivation to engage in an activity (Linnenbrink & Pintrich, 2002). The literature demonstrates that intrinsic motivation promotes to a higher extent learning and achievement as compared to extrinsic motivation (Pintrich & Schunk, 2002).

*Goal.* Goal constructs have been researched from two different perspectives, namely the goal content approaches and the goal orientations approach (Pintrich, 2003). We adopt the latter approach in the research reported in this dissertation. Goal orientations are defined as “...the



reasons and purposes for approaching and engaging in achievement tasks” (Pintrich, 2003). In general, two goal orientations are distinguished: mastery (focused on learning and mastery of the content) and performance (focused on demonstrating ability) (Pintrich & Schunk, 2002). Recently, a second dimension has been added to goal-orientation through the introduction of a distinction between goal avoidance and goal approach (Schunk, Pintrich, & Meece, 2007). This second dimension is mostly used in conjunction with performance goals; though sometimes also with mastery goals. We build on the second dimension to differentiate between two types of performance goals: (1) approach performance goals where learners want to outperform others and demonstrate their competence, and (2) avoidance performance goals where learners want to avoid failure and looking incompetent (Schunk et al., 2007). Research has linked mastery goal orientations to positive cognitive, behavioural, and affective outcomes, avoid performance goal orientation to negative outcomes and approach performance goal orientation to mixed outcomes (Schunk et al., 2007). Kaplan, Middleton, Urdan, & Midgley (2002) suggest that learners can hold mastery and performance goals simultaneously and that low levels in both goal types produce negative outcomes. In contrast, high levels in both goal types could result in positive outcomes. Instructional design can support the goal-setting because learners tend to adopt goal orientations stressed in classroom settings (Schunk et al., 2007). Schunk (2001b) stresses in this context that research indicates that when people accept and commit themselves to assigned goals, they can be equally well motivating as self-set goals. The critical impact of goal orientations will be considered in the design of instructional interventions, aimed at developing oral presentation skills.

*Task-value.* The last construct, task-value, consists of four components (Eccles & Wigfield, 2002): attainment value (personal importance of doing well on the task), intrinsic value (similar to intrinsic motivation), utility value (how well a task relates to current and future goals), and cost (negative aspects of engaging in a task). Zusho, Pintrich, and Coppola (2003) clearly point at the importance of relating instruction to the utility value part of task-value.

The five constructs, discussed above, are incorporated in the expectancy value theory (Bruinsma, 2004; Eccles & Wigfield 2002; Pintrich & De Groot 1990; Pintrich & Schunk, 2002; Schunk et al., 2007). Expectancy is related to the question ‘can I do this task’ and therefore linked to the self-efficacy construct. This is often influenced by a person’s attributions. The value component can be interpreted as an answer to the question ‘why am I doing this’ (Pintrich & De Groot, 1990) and deals with goals, intrinsic motivation, and perceived task value. It is important to notice that expectancy is not the same as self-efficacy

because it is more future oriented, and influenced by self-efficacy and by goals (Schunk et al., 2007). Goals are seen as cognitive representations of *what* learners are striving for, next to goal orientations that indicate *why* learners are striving for something and *how* they engage themselves in this task (Schunk et al., 2007).

### *Sub-processes in self-regulated learning*

Self-regulation can be defined as follows (Zimmerman, 2000, p.14) “self-regulation refers to self-generated thoughts, feelings, and actions that are planned and cyclically adapted tot the attainment of personal goals”. The triadic reciprocal causal model of human functioning (Bandura, 1997) considers learning outcomes to be the result of the interplay between instruction and self-regulatory mechanisms. Three mechanisms are distinguished: behavioural self-regulation, environmental self-regulation, and covert self-regulation (Zimmerman & Kitsantas, 2005).

The critical importance of self-regulation in the context of the social-cognitive approach towards learning, requires a further analysis in view of the design and development of instructional interventions that foster self-regulation. In the following paragraphs, we describe (1) basic sub-processes of self-regulated learning, (2) the cyclic model of self regulated learning, and (3) finally the transition from observation to self-regulated performance.

Bandura (1986, 1991) and Schunk (2001a) distinguish between three basic sub-processes that underlie all subsequent processes in self-regulated learning: self-observation, self-judgment, and self-reaction. The interaction between these processes is depicted in figure 1.2. The representation also accentuates the reciprocal nature of the relationships between environmental factors, personal factors, and the three sub-processes. We also include the four constituent processes of the learning cycle.

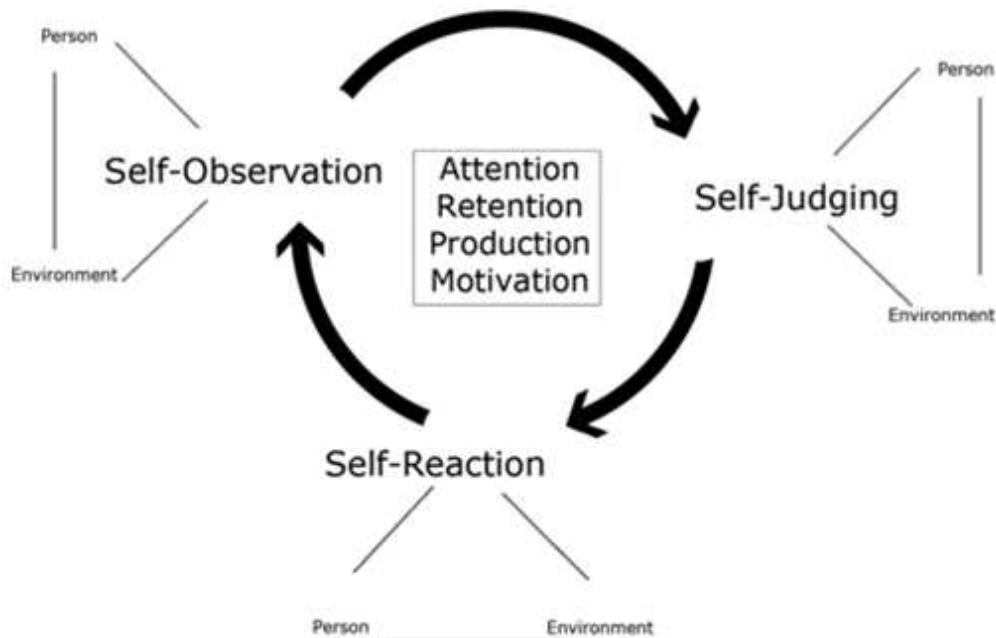


Figure 1.2. Basic sub-processes of self-regulated learning

*Self-observation* can be regarded as the first step in a learning process. It has, next to an informational, also a motivational function (Bandura, 1986; Schunk, 2001a). The information helps to set realistic performance standards and motivates learners to evolve depending on performance outcomes and efficacy expectations (Schunk, 2001a). Bandura (1991) warns in this context for inaccuracies in self-observation and the influence exerted by pre-existing self-conceptions and mood states. Schunk (2001a) points at regularity and proximity as important criteria for self-observation. Irregular observation and observation too long after the behaviour occurrence, can invoke misleading results.

The base for future behavioural change (or “better” performance) lies in *self-judgment processes* during which information gathered via self-observation is compared to a performance goal. This process is affected by the standards used, the goal properties, the importance of goal attainment, and success/failure attributions (Schunk, 2001a). Absolute standards are hardly available; therefore learners especially compare their performance with

other learners or models (hence the importance of observational learning) and with previous performances (Bandura, 1986). Proximal, specific and moderately difficult goals offer the largest motivational benefit (Schunk et al., 2007), but is the importance learners attach to the attainment of goals that will determine whether they assess personal performance (Bandura, 1991). If learners attribute failure/success to an internal cause they feel able to influence personally, the learner will start a *self-reaction process* that brings their behaviour in line with the performance standard.

*The cyclic phases in self-regulation*

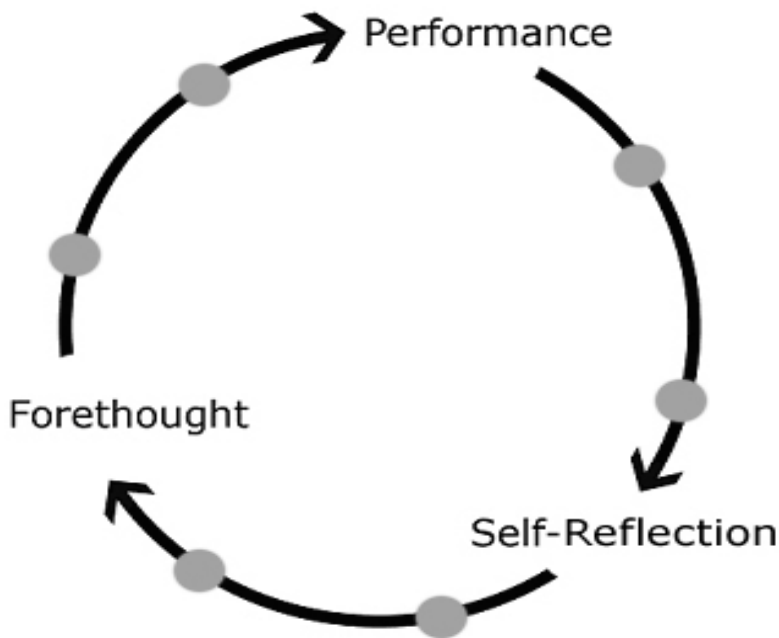


Figure 1.3. The self-regulation cycle (Adapted from Zimmerman, 2000).

In the former paragraphs, basic sub-processes of self-regulated learning have been described that play a role during each of the following phases: forethought, performance, and self-reflection (Zimmerman, 2000). This hypothetical cyclic model is represented in figure 1.3. Recent research presents a growing body of empirical evidence underpinning this model (Zimmerman, 2008). The model seems particularly suited to explain long-term learning processes (Zimmerman & Kitsantas, 2005), such as the learning of oral presentation skills. We added little grey circles within figure 1.3 that refer to the sub-processes of self-regulated as discussed above and depicted in figure 1.2.

The first phase is called the *forethought phase* that builds on task analysis and self-motivation beliefs (Zimmerman, 2000). Highly self-regulated learners have a high level of self-efficacy, of outcome expectations, of intrinsic interest, and of a mastery goal orientation. They break a task into subparts, set short-term, and long-term goals, and plan strategies to attain those goals (Zimmerman & Kitsantas, 2005).

The second phase is the *performance phase* that builds on the self-control processes and the self-observation processes described above; e.g., self-instruction, imagery, attention focus (Zimmerman, 2000).

The third phase is the *self-reflection phase* that builds especially on self-judgment and self-reaction. Two key forms of self-reaction have been studied to date: self-satisfaction and adaptive inferences (Zimmerman & Kitsantas, 2005). Self-satisfaction involves perceptions of satisfaction or dissatisfaction when performance is compared to standards. This perception also depends upon the intrinsic value of the task for the learner (Zimmerman, 2000). When its intrinsic value is low and a learner doesn't care very much about the task, than he/she will not experience high levels of (dis)satisfaction. Self-satisfaction directs future behaviour and creates motivators for this behaviour, because most people value self-satisfaction more highly than material rewards (Bandura, 1986). Adaptive or defensive inferences are the deductions about the need to alter one's self-regulatory approach (Zimmerman & Kitsantas, 2005). Learners make an adaptive inference when they choose a more effective strategy to attain their goal and a defensive inference when they decide to avoid the task in the future (Zimmerman, 2000). Zimmerman and Kitsantas (2005) state that learners who fail to set goals or choose a strategy during the *forethought phase*, will end with reactive forms of performance and unsystematic self-evaluation.

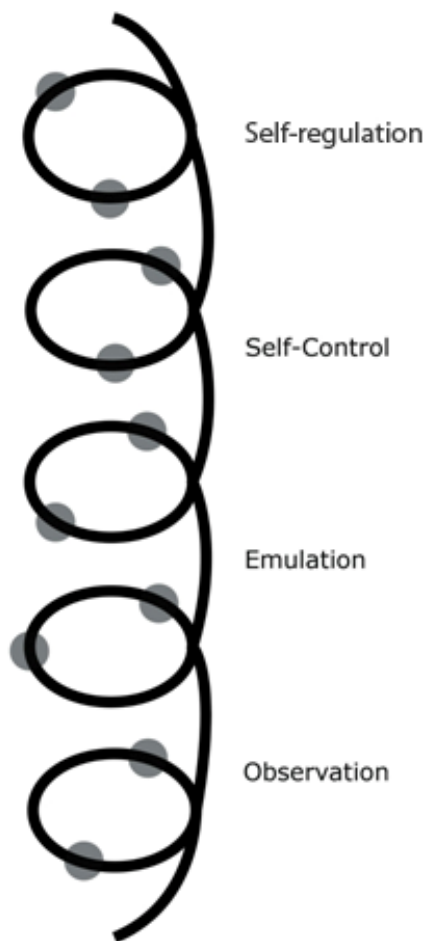
*Developmental levels in self-regulation*

Figure 1.4. Developmental levels in self-regulation

The phases and cycles described above play a role during immediate and short-term phases in self-regulated activities. What about the long-term development in self-regulation? The social cognitive perspective presents an iterative perspective (see figure 1.4) about the development of self-regulatory skills. We again introduced little grey circles into figure 1.4 to indicate that learners, at each developmental level, pass countless times through the cyclic phases of forethought, performance, and self-reflection that were depicted in figure 1.3.

The iterative process starts with social modelling experiences, and develops via emulation to a self-controlled, and finally to a fully self-regulated mastery level (Zimmerman, 2000). This process implies that the first level is an observational level requiring a learner to watch a model performing the skill to be acquired. When the learner tries – with assistance- to

adopt the model behaviour, he moves to the emulation level. This does not mean that the learner copies the exact behaviour of the model but emulates the models' general pattern or style of functioning, also depending on a vicarious experience (Schunk & Zimmerman, 1997). Learning at the emulation level remains social, because performance is still enhanced by models that provide feedback and reinforcement (Zimmerman, 2000). At the third level - the self-controlled level - the learner practices the behaviour independently of the model, but still in a structured setting. The self-regulatory strategy is now internalized, but builds on the standards reflected in a model's performance (Schunk & Zimmerman, 1997). The self-regulated level is the fourth level where the learner is able to adapt his/her performance to changing conditions (Zimmerman, 2000).

The developmental model assumes that learners will learn more easily and effectively when adopting the iterative process, but does not assume that every learner has to advance according to the specific sequence (Zimmerman & Kitsantas, 2005). Nevertheless, different authors present empirical evidence to validate the sequential validity of the developmental model (Zimmerman & Kitsantas, 1999, 2002).

Figure 1.5 offers an integrated graphical representation of the theoretical framework. The left side of the figure depicts the sub-processes that play a recurrent role during the cyclic phases presented in the middle of the figure. The right side of the figure portrays the long term developmental cycle from observation to self-regulation.

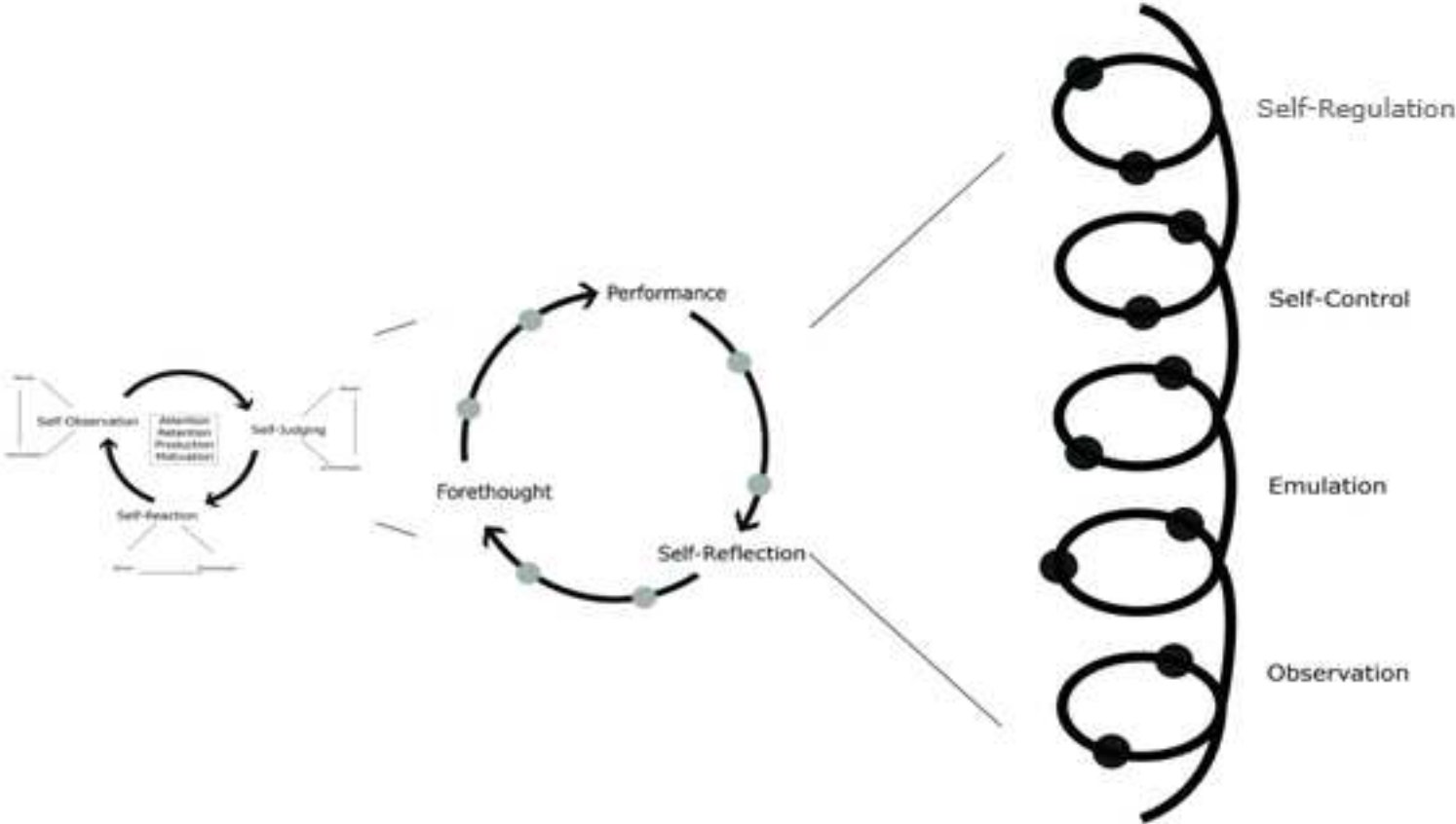


Figure 1.5. Schematic overview of processes involved in the social cognitive model of self-regulated learning



*Making choices*

Before presenting an overview of the research questions and the organization of this dissertation, it is critical to stress that a number of choices have been made to study the central research problem.

A first choice was to concentrate on assessing the demonstration of oral presentation skills and not on the related declarative, procedural, and/or meta-cognitive knowledge. Secondly, we did not include in our research the potential of technical aids such as PowerPoint. Assessment of the impact of technical aids would have complicated the study of the specific impact of other instructional variables study. It would also have caused an additional level of complexity for assessors, and an increase in their training time. Thirdly, we do not focus in the studies on oral presentation criteria about correct language use. This would have complicated the design of the instructional intervention and the related assessment process by assessors, as discussed earlier. Fourthly, we focus in our studies only on individual oral presentations. This is especially due to the nature of the theoretical framework that is geared towards individual learning. The study of group presentations can be tackled in future research.

**4. Research questions, and organization of the dissertation***Research questions*

As stated at the start of this chapter, the central research problem of this dissertation focuses on how to design and develop an effective way to develop oral presentation skills? The introductory sections of this chapter helped to make choices, to develop the conceptual base, and to delineate a strongly needed theoretical framework.

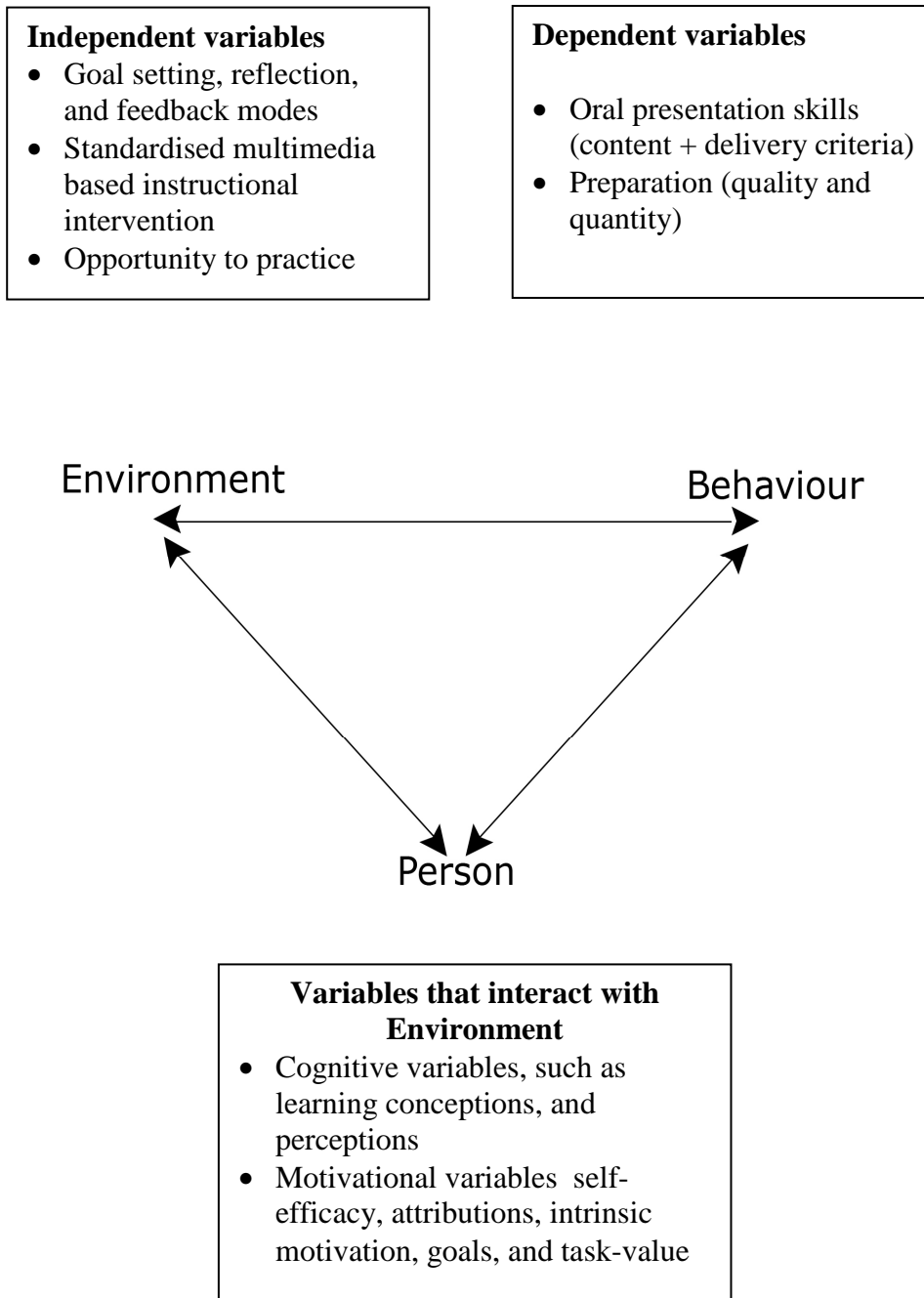


Figure 1.6. Variable model, adopted in this dissertation.

The list of research questions, presented below build upon the conceptual and theoretical framework presented earlier. The independent variables refer to design variables that are considered to be of importance when we build on the social learning theory of Bandura. This helps to operationalize the theoretical constructs and to direct the empirical study of the instructional intervention to develop oral presentation skills. The central importance of

*modelling* introduces in this context the need to build on a standardized multimedia instructional intervention. The dependent variables refer to the criteria that will be used to assess – in a quantitative and qualitative way – the impact of our intervention. But the triarchic model clearly stresses the interaction impact of person related variables. Therefore, a number of cognitive and motivational variables are considered in the variable model. The variable model, presented in figure 1.6 is studied on the base of the following research questions. But, the discussion about the assessment of oral presentation skills, earlier in this chapter, has introduced critical issues about validity and reliability of self, peer, and expert assessment of oral presentation skills. This explains why the list of research questions also centres on these issues:

- Preliminary question (PQ): How to measure oral presentation skills?
- Research questions (RQ)
  1. Does an instructional intervention that builds in providing learners with *specific goals* and invoking *self-reflection*, has a beneficial impact on the development of oral presentation skills?
    - a. Students in an experimental condition that fosters defining specific goals, perform better as compared to students in a control condition where only a general goal has been presented by the instructor.
    - b. Students in an experimental condition that stimulates self-reflection perform better than students in a control condition.
  2. Are goal setting, self-reflection, and specific student characteristics significant predictors of oral presentation skills?
  3. What is the impact of a standardized multimedia instructional intervention, based on the social cognitive perspective on self-directed learning, with embedded evaluation, feedback and practice on the acquisition of oral presentation skills?
  4. Is the impact from peer feedback on oral presentation performance as large as the impact of feedback from experts or from self observations?
  5. What are the interaction effects of learner characteristics and instructional formats on oral presentation performance? Is there a positive association between performance and a mastery goal orientation? Is there a negative association between performance and a performance avoidance goal orientation?
  6. What are the students' perceptions about the characteristics and nature of the multimedia learning environment?

7. What is the level of agreement between peer assessment and professional assessment?
8. What is the level of agreement between self-assessment and professional assessment?
9. What are the student perceptions about peer assessment?
10. Will oral presentation skill performance improve due to a combination of observational learning and individual practice?
11. Is the progress in oral presentation skills larger due to observational learning as compared to only getting practice opportunities?
12. What are the interaction effects between student characteristics (goal orientation, personal performance estimation, perception of instruction and learning) and instructional interventions on oral presentation performance?

These research questions have been studied in a number of studies that are reported in the following chapters. Table 1.1. documents what specific research questions are reported in the concrete chapters.

Table 1.1

Overview of the research questions, addressed by chapter

Chapter	PQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ	RQ
		1	2	3	4	5	6	7	8	9	10	11	12
1	General introduction												
2 <sup>a</sup>	X	X	X										
3 <sup>b</sup>				X	X	X	X						
4 <sup>c</sup>								X	X	X			
5 <sup>d</sup>											X	X	X
6	General discussion												

PQ = Preliminary Question; RQ = Research Question

<sup>a</sup>Manuscript accepted for publication in the *European Journal of the Psychology of Education*

<sup>b</sup>Manuscript accepted for publication in *Computers & Education*

<sup>c</sup>Manuscript submitted for publication in *Educational Research*

<sup>d</sup>Manuscript submitted for publication in *Educational Studies*

To further orient the reader, we present in table 1.2. a more detailed overview of the nature and design of the studies reported in the successive chapters.

Table 1.2

Overview of the chapters, research design, and research techniques

<i>Chapter</i>	<i>Research overview</i>	<i>Research design</i>	<i>Research approach and/or analysis techniques</i>
Chapter 1	1. Definition and measurement of oral presentation skills 2. Learning and teaching of the oral presentation skills 3. Conclusions from the literature and research questions		Review of the literature. Conceptual framework Explication of the theoretical framework.
Chapter 2	(1) Construction of an assessment instrument (2) Study of the validity and reliability of the assessment instrument (3) Study of the impact of goal-setting and impact of stimulation of self-reflection (4) Study of the role of student characteristics	(1) Expert panels (2) Use of the instrument by experts (3) Quasi-experimental design, involving four experimental conditions based on a 2x2 factorial design (4) Student questionnaires.	(1) Semi-structured interview (2) Factor analysis and ANOVA. (3) AN(C)OVA (4) Regression analysis
Chapter 3	(1) Construction of a standardised multimedia instruction. (2) Study of the impact of an instructional intervention comprising the self-constructed standardised multimedia	(1) Application of theoretical framework. (2) - (3) Pre-test, post-test quasi-experimental design. (4) Student	(1) Analysis of the literature (2) Paired t-tests. Repeated-measures analysis. (3) AN(C)OVA (4) ANOVA

	instruction, practice, and feedback	questionnaires.	
	(3) Study of the differential impact of three modes of feedback		
	(4) Study of the role of student characteristics		
Chapter 4	(1) Agreement between professional assessment and self- and peer assessment. (2) Perception about peer assessment.	(1) Simultaneous assessment by professionals, peers, and participants. (2) Student questionnaires.	(1) Paired <i>t</i> -tests, correlation analysis, <i>ANOVA</i> , and two-facet Generalizability analysis. (2) Descriptives and paired <i>t</i> -tests.
Chapter 5	(1) Comparison of impact of observational learning and practice-based learning. (2) Study of the role of student characteristics.	(1) Pre-test, post-test cross-over design. (2) Student questionnaires.	(1) Repeated-measures analysis. Paired <i>t</i> -tests and Wilcoxon signed rank tests (2) <i>ANOVA</i>
Chapter 6	Conclusions, practical implications, limitations, further research.		Integration of research findings

Finally, figure 1.7 gives a schematic overview of the overall organisation and relationship between the different studies as described in the different chapters. Some overlap between the chapters is inevitable as the same theoretical framework is used in all the studies.

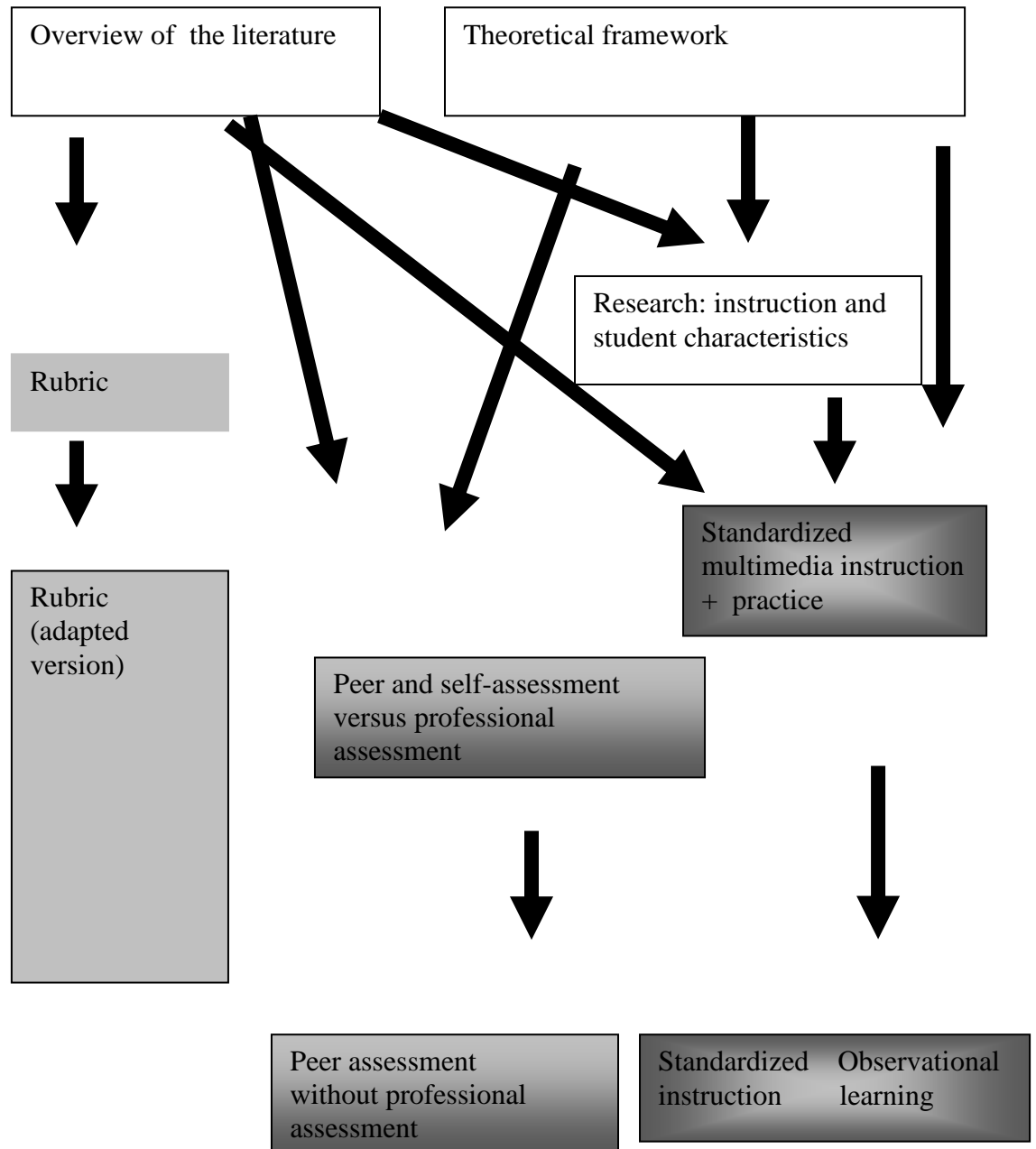


Figure 1.7. Schematic overview of research

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## Chapter 2\*

# The Impact of Goal Orientation, Self-Reflection, and Personal Characteristics on the Acquisition of Oral Presentation Skills

### Abstract

Although many educators help others to develop oral presentation skills, little research is available to direct their instructional design activities. In the present article an explorative study on university freshman is described, in which goal-setting, self-reflection, and several characteristics of the subjects during oral presentations were analysed. The research results emphasize the critical impact of motivational constructs, such as self-efficacy and goal orientation, next to the topic of the oral presentation on the acquisition of oral presentation skills.

### 1. Introduction

The importance of oral presentation skills is widely recognised. Many instructors at various educational levels ask their students to give oral presentations. Although the teaching of presentation skills is stressed in many curricula, it has hardly been researched empirically (Campbell, Mothersbaugh, Brammer, & Taylor, 2001).

The development of oral presentation skills is a time-consuming activity. This does not square very well with the current trend in higher education to reduce in-class instruction time. The latter increases the pressure to optimise the instructional environment and to adopt evidence-based approaches to direct instruction. An important question in this optimisation concerns the role the student can play: how can we help to make them more responsible for their learning with less input (=time) from the teacher?

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A key element in the research on oral presentation skills acquisition is the need to understand the relationship between instructional environment variables, student characteristics, and their learning process and performance.

The available literature gives us a rather fragmented and limited picture of this relationship. A number of studies focus on assessment of oral presentations and construct evaluation instruments (Conor, 2006), compare evaluation instruments (Carlson & Smith-Howell, 1995; Edens, Rink, & Smilde, 2000) or study self and peer assessment of oral presentation skills (Campbell et al., 2001; Cheng & Warren, 2005; Langan et al., 2005; Magin & Helmore, 2001; Patri, 2002). Some authors concentrate rather on what we should teach about oral presentation skills and not on how we should teach it (e.g., Andeweg & de Jong, 1998). Others try to deal with public speaking anxiety (e.g., Behnke & Sawyer, 2000).

A few studies centre on the instructional process. Bourhis and Allen (1998) study the role of videotaped feedback; Jensen and Harris (1999) explore the use of a public speaking portfolio. Bayless (2004) researches the impact of placement, pace, and preparation. Tucker and McCarthy (2001) investigate the role of service-learning, and Calcich and Weillbaker (1992) studied the optimal number of in-class presentations. However research about the interaction of instruction with student characteristics is scarce and focuses mostly on the role of self-efficacy (e.g., Adams, 2004). Furthermore, no research is available focusing on predictors of oral presentation performance.

The literature is also limited when it comes to the development of a theoretical framework to guide the empirical research. In the following paragraphs we shall present a theoretical framework that incorporates a complex set of variables and processes which will be the focus of the present study.

## **2. Theoretical framework**

If we want the student to take charge of a greater part of the learning process, we enter the domain of self-regulated learning in which three cyclical phases are discerned: forethought, performance, and self-reflection (Schunk, 2001a; Zimmerman, 2000). A number of theoretical perspectives is available in this context. For this research we choose the social cognitive perspective of Bandura (Bandura, 1997; Schunk, 2001a; Zimmerman, 2000) that builds on three interacting determinants of human functioning: environment, behaviour, and person (see figure 2.1, Bandura, 1997).

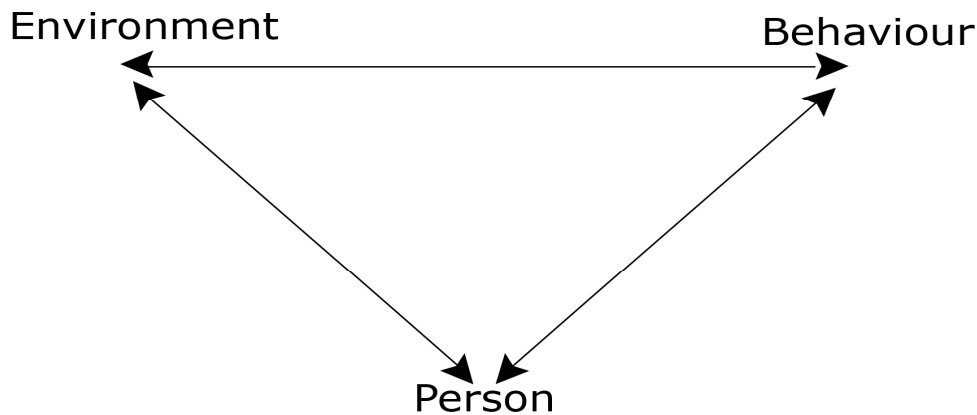


Figure 2.1: Three determinants of human functioning (Bandura, 1997)

*Environment: Instructional environment*

The central question concerning the environment is: can we foster self-regulated learning in the domain of oral presentation skills and what interventions can we design and implement to attain this objective? In the literature there are several instances of experiments involving goals and self-reflection, as these are essential elements in the phases before and after performance (Schunk, 2001a; Zimmerman, 2000) and so we decided to use them in our experiment as well.

Marzano, Pickering, and Pollock (2001) state that instructional goals narrow what students focus on. In addition, Locke and Latham (2002) stress three more specific mechanisms: goals perform an energizing function, goals affect persistence, and goals affect action indirectly by arousal/discovery/use of task-relevant knowledge and strategies. Considering the importance of goals, the next question is: which goals must be chosen? Schunk (2001b) summarizes research evidence that supports the benefits of specific goals, as they are more likely to enhance self regulation as compared to general goals. Bandura (1997) explains the efficacy-promoting effect of sub-goals in contrast to general goals: when progress is measured against a short-term sub-goal it will promote a growing sense of efficacy, but when evaluated against a big and long-term goal, it can be experienced as being rather disappointing.

In relation to goal-setting, there is some controversy as to who is expected to set the goals. Ames (1992) states that perception of control is a significant factor affecting learning

and quality of learning. However the research literature is not univocal: when people accept and commit themselves to assigned goals, they can be equally well motivating as self-set goals (Schunk, 2001b). This discussion is of interest for the present study where students in the goal setting condition were put in two experimental conditions.

Self-Reflection is a critical element in the model of self regulation (Boekaerts, Pintrich, & Zeidner, 2000; Pintrich & Schunk, 2002) and considered to be crucial for future motivation and performance. Self-reflection is one of the three phases of self-regulation: forethought, performance, and self-reflection, and composed of the two processes of self-judgment and self-reactions (Zimmerman, 2000). Reflecting is a meta-cognitive activity which includes evaluation of effort, time-allocation, strategies, and learning aids (Masui & Decorte, 2005).

These activities influence subsequent forethought and prepare the learner for further efforts (Zimmerman, 1998). Schunk and Ertmer (2000) recommend that intervention studies be conducted and more research attention devoted to the effectiveness of self-reflection. Building on the theoretical importance of self-reflection, our study will integrate reflective activities in an experimental intervention.

#### *Person: Student characteristics*

A basic assumption of the social-cognitive framework is that behaviour is influenced by a combination of environmental factors and personal characteristics (Urduan & Schoenfelder, 2006). Applying this to the context of our study, this implies that oral presentation-performance is the result of the interaction of specific instructional interventions and student characteristics. Vermetten, Lodewijks, and Vermunt (2002) suggest that a person's habitual way of learning and his learning conceptions influence his interpretation of the intervention. In this context Elen and Lowyck (1998) put great emphasis on knowledge about the learning potential of the instruction as another element that influences the interpretation. They labelled these conceptions about the learning process, the task and the environment the instructional meta-cognitive knowledge (Könings, Brand-Gruwel, & Van Merriënboer, 2005).

Conceptions or ideas and beliefs about learning have an impact on goal setting, learning activities, and performance (Bakx, Vermetten, & Van der Sanden, 2003; Diseth & Martinsen, 2003). Since learning conceptions are to a certain degree context-dependent, it is relevant to take the knowledge domain into account when studying learning conceptions (Bakx, Van der Sanden, Sijtsma, Croon, & Vermetten, 2006; Eklund, 1998; Vermunt & Vermetten, 2004).

Pintrich (2003) has emphasized the central role of motivation when investigating learning and teaching. Motivation is the process whereby goal-directed activity is instigated and sustained (Pintrich & Schunk, 2002). However in the literature many definitions and conceptualisations of motivation are found. Linnenbrink and Pintrich (2002) subdivide the motivational constructs found in the literature into four families of motivational beliefs: self-efficacy, attributions, intrinsic motivation, and goal orientations. Later on, Pintrich (2003) expanded the set of families of social-cognitive motivational constructs by adding task-value. Below, the five constructs and their interrelationships will briefly be described.

1. Bandura (1997, p.3) has defined self-efficacy as: “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments”. The self-efficacy theory of Bandura (1997, 1998) is often used in literature. Correlational- and experimental studies show that students with a positive self-efficacy are more likely to work harder, attain higher scores on persistence and higher achievement levels (Linnenbrink & Pintrich, 2002). A limited number of studies report negative effects of self-efficacy on performance, due to overconfidence (Vancouver, Thompson, Tischner, & Putka, 2002). Self-efficacy beliefs vary in level, strength, and generality (Pajares, 2002). Holladay and Quinoñes (2003) suggest that level and strength are a single factor of self-efficacy.
2. The attribution theory emphasizes that students will analyse failure or success experiences to determine the perceived causes. These perceived causes will impact on the expectations about future success (Eccles & Wigfield, 2002).
3. Intrinsic motivation is the internal motivation to engage in an activity (Linnenbrink & Pintrich, 2002). The literature demonstrates that intrinsic motivation promotes learning and achievement to a higher degree than extrinsic motivation (Pintrich & Schunk, 2002).
4. Goal theory emphasizes the goal orientations of individuals when receiving tasks (Linnenbrink & Pintrich, 2002). In general, two goal orientations are distinguished: mastery (focused on learning and mastery of the content) and performance (focused on demonstrating ability) (Pintrich & Schunk, 2002). Recently, a second dimension has been added to goal-orientation (Pintrich, 2003) by the introduction of a distinction between goal avoidance and goal approach.
5. The last construct, task-value, consists of four components (Eccles & Wigfield, 2002): attainment value (personal importance of doing well on the task), intrinsic value

(similar to intrinsic motivation), utility value (how well a task relates to current and future goals) and cost (negative aspects of engaging in a task).

The expectancy value theory incorporates these five constructs (Bruinsma, 2004; Eccles & Wigfield 2002; Pintrich & De Groot 1990; Pintrich & Schunk, 2002). Expectancy is related to the question ‘can I do this task’ and the self-efficacy construct. Often this is influenced by the person’s attributions. The value component can be interpreted as an answer to the question ‘why am I doing this’ (Pintrich & De Groot, 1990) and deals with the goals, intrinsic motivation and task value.

### *Behaviour: Student learning process and presentation performance*

Indicators of the variable ‘behaviour’ are the student learning process when developing the presentation skills and his/her final oral presentation. Observable indicators are time spent on the preparation of the presentation, notes of the presentation, consultation of others, practicing, and the presentation itself.

Building on the theoretical base described above, we defined in a better way our expectations of the impact of an experimental intervention on the development of oral presentation skills and to put forward concrete hypotheses about the impact of student characteristics.

## **3. Research hypotheses**

The following research questions and hypotheses are put forward.

1. Does an instructional intervention that builds in providing learners with *specific goals* and invoking *self-reflection*, has a beneficial impact on the development of oral presentation skills?
  - a. Students in an experimental condition that fosters defining specific goals perform better as compared to students in a control condition where only a general goal has been presented by the instructor.



- b. Students in an experimental condition that stimulates self-reflection perform better than students in a control condition.
2. Are goal setting, self-reflection, and specific student characteristics significant predictors of oral presentation skills?

#### **4. Research design and data collection procedure**

##### *Participants*

The participants were university freshman enrolled for a Psychology course as part of a bachelor degree in Business Administration. Part of this course focuses on the development of oral presentation skills. Students were expected to develop and give three oral presentations. Informed consent was obtained from 101 students (70 males; 31 females). These students also completed two questionnaires.

##### *Research instruments*

The questionnaires focused on a variety of student characteristics and background information as described in the theoretical section. Specific instruments were developed to assess the quality of the oral presentations.

##### *Student characteristics*

##### *Goal orientation measure: PALS*

The PALS (Patterns of Adaptive Learning Survey) scale is a widely used and validated questionnaire (Day, Radosevich, & Chasteen, 2003; Midgley et al., 1998; Ross, Shannon, Salisbury-Glennon, & Guarino, 2002; Smith, Duda, Allen, & Hall, 2002). Smith et al. (2002) compared the PALS with two other measures of goal orientation. They developed a 16 item version based on the questionnaire developed by Midgley et al. (1998) and concluded that the three goal orientation instruments were valid.

The scale consists of three 5 or 6 item subscales that represent the three goal orientations (task goal, performance approach, and performance avoidance).

In the present study, the PALS scale was selected because of the skills-orientation of this scale. The PALS was translated into Dutch following the *parallel blind technique*

(Behling & Law, 2000) and the questionnaire used can be found in appendix A. To prevent misunderstanding, we included the translated version of the PALS.

### *Domain-specific learning conceptions*

Bakx et al.(2003, 2006) constructed and validated a scale to measure the learning conceptions of social work students in the communication knowledge domain. This questionnaire was adapted to the context of oral presentations. The scale can be found in appendix B and contains 27 items that assess four learning conceptions: the constructivist, the text-based, the model-based, and the pragmatic learning conception.

### *Self-efficacy*

As self-efficacy beliefs vary in level, strength, and generality (Pajares, 2002), the questionnaire incorporates items about different aspects of public speaking (e.g., keeping eye-contact/ controlling nerves) and different levels (can you speak to a group of 10, 25, 50, or 100 students). To assess the strength of their beliefs, a rating scale was used, ranging from 1 (*I cannot do this at all*) to 10 (*I'm absolutely sure I can do this*). The use of the word *can* is significant in the particular items since we measure a judgment of the students' capability and not a statement about the capacities they would like to have (Pajares, 2002).

Bandura (1997, p.14) gives an example about personal self-efficacy in public speaking to demonstrate how context-sensitive self-efficacy judgments can be: “ ... differ depending on the subject matter, whether the speech is extemporaneous or from notes, and the evaluative standards of the audiences to be addressed, to mention just a few conditional factors ...” But Pajares (2002) warns that the construct of self-efficacy can become irrelevant when the definition is too narrow. He cautions researchers not to reduce self-efficacy to an atomistic level.

The self-efficacy scale consists of 10 items that require the student to give a rating of 1 to 10.

### *The student learning process*

Participants were asked to rate characteristics of their learning process (for the three oral-presentations) and perceptions regarding their progress on a 5 point Likert scale:

- How extensive was your written preparation?
- How much time did you spend preparing the presentation (in minutes)?
- How many times did you reflect on your preparation/ did you consult someone else and did you change your approach as a result of these interventions?
- What was important for you when preparing the presentation (12 alternatives)?
- Are you happy with the progress you have made?
- What was the role of the following attributions? (Two internal and three external attributions on a 7 point Likert scale were given).

*Preliminary question: How to measure oral presentation skills?*

In the literature only a limited number of studies has been found (Carlson & Smith-Howell 1995; Daly, Vangelisti, & Weber 1995) about a validated and reliable way to measure the quality of oral-presentation skills, but no generally accepted assessment instrument was found. A new instrument – based on a variety of existing instruments - was constructed. Six scales were tested in a pilot study by four experienced researchers. Five of these six scales were used in previous studies by Carlson and Smith-Howell (1995); Daly et al. (1995); Wiertzema and Jansen (2004). Carlson and Smith-Howell (1995) reported Chronbachs' alpha .91, .83, and .69 for the three scales they used, and Daly et al. (1995) reported Chronbachs' alpha of .81. The four experts used the six scales to assess videotaped presentations. In addition, a semi-structured interview was organized with each of them. The interviews were analyzed in order to develop a new assessment instrument for oral presentations. The new instrument is based upon on a rubric approach. The latter presents the assessor with a description of levels of performance in relation to specific criteria to assess task-performance (Hafner & Hafner, 2003). In the present study ten specific criteria were used that require the assessor to score on a 5- point scale: three content items, five delivery items, and two overall items. The quality of visual aids and grammar was not judged with this instrument.

The rubric that was used to assess the oral presentation skills can be found in appendix A.

In the literature opinions vary in relation to the role of gender effects on assessment of presentation performance. Hafner and Hafner (2003) report gender neutrality, but Edens et al. (2000) report a significant gender effect. The impact of gender was controlled for during data analysis.

## 5. Research procedure

Information about background characteristics of the students was gathered at the start of the academic year. In the psychology course, all students received a theoretical introduction about communication, effective non-verbal behaviour and oral presentations. At the start of the next phase students were randomly assigned to one of four experimental conditions following a 2x2 factorial design:

1. Presentation of a general presentation goal and no self-reflection
2. Presentation of a general presentation goal and self-reflection
3. Invoking personal specific presentation goal setting and no self-reflection
4. Invoking personal specific presentation goal setting and self-reflection

All sessions were monitored by the researcher and followed a strait scripted format. The introduction of a general goal was very brief and focused on the improvement of presentation skills. In the specific goal condition the researcher explained – at the start of every session - that it is not possible to pay attention to all elements of an oral presentation and urged the students to select a specific and concrete set of objectives from of a larger list.

The second experimental variable in this study is self-reflection. After looking at the video recording of their oral presentation, students were asked: “What was good in your presentation? What went wrong and why? What did you learn seeing the video-recording of your presentation and what does this mean for the preparation of the next presentation?” This intervention is based on the *stimulated recall interview* technique (Meijer, Zanting, & Verloop, 2002). Students in research conditions without self-reflection were not asked this type of questions and/or stimulated to reflect on their performance.

In each research condition, the students participated in three sessions, resulting in an individual three-minute presentation. Each presentation was videotaped. The experimental conditions were standardised as to place, duration, physical setting, facilities, and the session coordinator.

Immediately after their last presentation, students were asked to fill out the second questionnaire (perceptions about the learning experience and self-efficacy). All students received extensive feedback at the end of this last session. This included discussion of their progress as compared to the earlier presentations.

Due to logistic problems, group size did vary. Analysis reveals oral-presentation scores are not significantly related to group size. Control of the potential impact of the ‘order’

in which they gave their presentation indicates that there is no significant correlation between the order variable and the score for the oral- presentation.

#### *Role of the assessors*

A group of six experienced faculty members (three male and three female and with a language education background) evaluated the quality of the first and third presentation. Assessors did not teach the students they had to assess. The assessors were also unaware of the research questions. They assessed the first and last presentation of each student without knowing the order in the presentations. In view of improving inter-rater reliability, at least one presentation was additionally assessed by a colleague.

#### *Topic of the oral-presentation*

In view of standardisation, participants were instructed to give a presentation about two prescribed topics:

- A. Present to an audience of pupils from the fourth year of secondary education what they can expect in the last two years of secondary education and what courses they can choose.
- B. Explain to pupils of the last year of secondary education what it means to study for a bachelor degree in business administration.

Half of the students started with the topic A and ended with B. The other students started with B and ended with A. Assessors could not know whether they were assessing a first or a second presentation.

## **6. Research results**

### *Student characteristics: descriptives and correlations.*

Table 2.1 gives an overview of descriptives and correlations of the research instruments. The reliability analysis shows that seven scales out of nine are sufficiently reliable ( $\alpha > .70$ ).

Only one of the three PALS subscales presents a problem due to a low Cronbach's alpha score ( $\alpha = .623$ ). The correlation between the performance approach scale and the performance avoidance scale ( $r = .49, n = 95, p < .01$ ) is in line with review results in Ross et al. (2002).

When we compare the means of the three subscales in Table 2.1 with the means in the Manual (Midgley et al., 2000) or in Ross et al. (2002), we see that our participants score higher on the Mastery subscale and lower on the two Performance scales.

For the domain specific learning conception scales only the pragmatic learning conception presents reliability problems. Cronbach's alpha scores for the other subscales are comparable to those reported by Bakx et al. (2003, 2006) and reflect high reliability.

Cronbach's alpha scores of the pre-test self-efficacy test ( $\alpha = .88$ ) and the post-test self-efficacy test ( $\alpha = .89$ ) are both high.

We can derive from Table 2.1 that there is a significant and positive correlation, as also reported by Bakx et al. (2003), between self-efficacy and the constructivistic learning conception. This is the case for the correlation between the Pretest self-efficacy and the constructivistic learning conception ( $r = .23, n = 99, p < .05$ ), and the correlation between the Posttest self-efficacy and the constructivistic learning conception ( $r = .30, n = 100, p < .01$ ). But, in contrast to our expectations there is no negative correlation between reproductive learning conceptions (model- or text-based) and self-efficacy (Bakx et al., 2003).

Table 2. 1  
Student characteristics: descriptives and correlations.

	Alpha	Mean (Standard Deviation)	3	4	5	8	9
<b>1 PALS taskgoal</b>	.62	3.96 (.60)					
<b>2. PALS performance approach</b>	.83	2.35 (.90)	.49**				
<b>3.PALS performance avoid</b>	.81	2.29 (.85)		.27**			
<b>4.Model-based learning conception (domain specific)</b>	.75	2.73 (.65)			-.25*		
<b>5.Constructivistic learning conception (domain specific)</b>	.86	4.40 (.49)				.23*	.30**
<b>6. Text-based learning conception (domain specific)</b>	.76	3.24 (.91)					
<b>7.Pragmatic learning conception (domain specific)</b>	.62	3.88 (.47)					
<b>8.Pretest self-efficacy</b>	.88	6.59 (1.37)					.67**
<b>9.Posttest self-efficacy</b>	.89	6.56 (1.29)					

Note. \* =  $p < .05$  \*\* =  $p < .01$ . Scales with problematic intern reliability are omitted from the correlation table.

### *Oral presentation performance*

The 200 oral presentations were evaluated by using a rubric as described earlier in this article. The scores given on the base of the rubric were analysed by means of a principal components analysis (Varimax rotation) resulting in a two factor solution. The two factors were found to be in line with theoretical expectations. The Content factor comprises loadings on the variables: introduction, structure, conclusion and the Delivery factor that pulls together loadings on the variables: eye-contact, vocal delivery, enthusiasm, and body-language. Three variables loaded in a balanced way on both components: professionalism, effectiveness, and contact with audience. It can be concluded that the construct validity - defined as the

theoretical construct that is being measured (Wiersma & Jurs, 2005) - is sufficient. ANOVA of the scoring results based on the variable 'assessor' shows that differences in scoring are not due to the person of the assessor ( $F_{(5,97)} = .50, p = .78$ ). When controlling for the impact of the variable gender, neither the variable gender of the assessor ( $F_{(1,93)} = .47, p = .62$ ) nor an interaction between the gender of the student and the gender of the assessor was significant ( $F_{(1,93)} = 1.95, p = .17$ ).

*Hypothesis 1: The impact of the instructional intervention*

The global presentation skills (sum of the ten criteria) between the first and last presentation improved significantly for all the subjects ( $p < .001$ ). In terms of effect size the difference is moderate ( $d = .64$ ). Participants scored significantly higher on most of the ten criteria, with the exception of vocal delivery ( $t$ -value =  $-1.12, p = .27$ ) and eye-contact ( $t$ -value =  $-1.81, p = .07$ ). The effect size of the criteria ranged from moderate ( $d = .63$ ) for the content criterion introduction to small ( $d = .36$ ) for the overall criterion effectiveness.

According to our hypothesis, students in a condition that fosters defining specific goals will outperform students in a condition where only a general goal has been presented by the instructor. A significant influence of the independent variable goal setting was observed ( $F_{(1,96)} = 4.53, p = .04$ ). The effect size was moderate (partial eta squared =  $.05$ ). A more detailed analysis reveals that the difference is found for two major components of the presentation: Content and Delivery. While the difference for the factor Content ( $F_{(1,96)} = 8.09, p = .005$ ) is significant with a moderate to strong effect size (partial eta squared =  $.08$ ), there is no significant difference in relation to the factor Delivery ( $F_{(1,96)} = 1.07, p = .30$ ). The research results of the ANCOVA show that differences at the time of the first presentation did not impact differences in the final presentation.

According to the hypothesis, students in a condition that stimulates self-reflection were expected to outperform students in other conditions. The analysis results do not however confirm this expectation ( $F_{(1,96)} = 1.32, p = .25$ ).

*Impact of the topic of the oral presentation*

As explained before, the presentations focused on two different topics. The mean score for an oral presentation about university was higher than the average score for the high school topic.



This topic effect was significant for the last presentation ( $F_{(1,98)} = 4.48, p = .04$ ) partial eta squared = 0.44, but not for the first ( $F_{(1,99)} = 2.13, p = .15$ ).

Further analysis reveals that students who first presented the high school speech and ended with the university topic made a significant progress ( $t = -5.71, p < .001$ ). In terms of effect size the difference is strong ( $d = 1.04$ ). Students who started with the topic about university and ended with the high school topic also made progress but not in a significant way ( $t = -1.55, p = .13$ ).

### *Hypothesis 2: Predictors of oral presentation performance*

A regression analysis with ‘performance on the last presentation’ as the dependent variable and the subscale scores student characteristics (see Table 2.1) as predictors (stepwise method) indicate that self-efficacy and the performance approach scale of the PALS were the best predictors of performance predicting 12.9% of the variance in scores ( $F_{(2,75)} = 6.69, p = .002$ ). In a next step, the measures from the perception of the learning process and the performance score for the first oral presentation were added to the analysis. Using the stepwise method a significant model emerged ( $F_{(4,73)} = 6.96, p < .001, R^2_{adj} = .24$ ). Significant variables were (beta-scores): performance approach scale PALS .23 ( $p = .03$ ), post-test self-efficacy .32 ( $p = .003$ ), subject of the last presentation .29 ( $p = .006$ ), and internal attributions of learning outcome .23 ( $p = .024$ ).

Self-efficacy – as expected – is to be considered as the most important predictor. Pre-test related efficacy beliefs are significant predictors of student performance at pre-test level, but not at post-test level. Post-test self-efficacy beliefs correlate with the performance on the first and on the second presentation. It is therefore possible that students adjusted their ‘self-efficacy beliefs’ after the first presentation experience.

## **7. Challenges and limitations**

Though considerable efforts were made, it proved difficult to completely standardise the situation due to the authentic character of the environment. This implies that a number of variables and processes could not be controlled for in the present study. It was for example not possible to control questions asked by the students or prior experiences of students with oral presentations. The limited duration of the intervention can also play a role because the intervention was reduced to three hours.

## 8. Discussion and conclusions

The main goal of the present study was to measure the influence of different instructional variables expected to play a role in the development of oral presentation skills. Little attention is paid in the literature to theoretical and empirical studies focusing on this competency. This is a striking shortcoming giving the central role of this competency in most higher education curricula.

A theoretical framework was presented to develop and research a specific instructional intervention, with a strong focus on the hypothetical impact of goal setting and self-reflection. The empirical study required the design and/or selection of a number of specific research instruments. Central attention was paid in this context to the development of a reliable research instrument to assess oral presentation skills. This instrument is a useful starting point for future research that could focus on additional measures to support the reliability of the instrument when used by professionals and peers.

The present research is to be considered as a first exploration of a complex of interrelated variables that play a role in the acquisition of oral presentation skills. The results of the first study show that it is possible to develop an intervention that fosters these skills. A key starting point seems to be goal setting as a critical variable in this process.

The impact of the instructional intervention was especially clear for the factor 'content'. Most students improved in paying more attention to the presentation introduction and to repeating the major points of their presentation at the end of the session. Performance indicators, such as eye contact and vocal delivery proved harder to be influenced and/or changed during this short instructional intervention.

Fostering self-reflection did yet not result in significant differences, though it seems that feedback (stimulated recall) based on the video recording of their presentations, did stimulate students' self-reflection. Future research should reconsider this variable and focus in more detail on the nature of feedback.

The motivational constructs self-efficacy, achievement goal, and attributions play a significant role as predicted, though further exploration of the nature of this impact is needed. On the basis of the present research, the following advice can be given to educators. Instructional intentions should promote goal-setting by students. Educators should focus on performance approach goals and stimulate students to show their abilities for oral presentations. Secondly, initial instruction and further feedback should stress the role and

importance of internal attribution of success. Third, self-efficacy is a significant variable to pay attention to. Interventions should try to promote the level of self-efficacy of the students. The unexpected impact of the topic of the oral presentation points at a potential interaction with motivational variables. Students may have considered the 'high school' topic as less challenging, thus invoking a lower level of enthusiasm and resulting in lower oral presentation scores.

The results about the impact of perception of the learning environment are consistent with other research. Students do not always experience a learning environment as it was intended (Könings et al., 2005). More research is needed that pays attention to the student perception of the instructional process for oral presentation skills acquisition. This should guide educators to be cautious and attentive about the interpretation of instructional interventions by students. Finally, this study has to be considered as a starting point to study the instructional approach towards oral presentation skills in a more systematic way. Next to central concepts, such as goal orientation, self-efficacy, and thematic interest, additional theoretical conceptions might be needed to describe and explain the impact of didactical interventions. The outcomes of subsequent research might help to develop better suited theoretical frameworks to direct theoretical, empirical and practical intervention studies in the field of oral presentations.

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### **Appendix A. Translation of the PALS (Smith et al., 2002)**

Bij de volgende vragen geef je uw mening weer via een cijfer van 1 tot 5 waarbij

1 = niet akkoord

2 = voor een groot deel niet akkoord

3 = neutraal

4 = voor een groot deel akkoord

5 = helemaal akkoord

1. Ik hou van mijn studies als ik er kan van leren, ook al maak ik veel fouten.
2. Een belangrijke reden waarom ik studeer, is omdat ik graag nieuwe dingen leer.
3. Ik leer het meest van mijn studies, wanneer ze me echt tot denken aanzetten.
4. Een belangrijke reden waarom ik studeer, is omdat ik steeds beter wil worden.
5. Ik doe mijn studies omdat ze mij interesseren.
6. In de les probeer ik beter te zijn dan de anderen.
7. In de les voel ik mij succesvol als ik beter presteer dan de meeste andere studenten.
8. Ik zou me echt goed voelen als ik de enige in de les zou zijn die het antwoord weet op de vraag van de docent.
9. Ik toon de docenten graag dat ik slimmer ben dan de andere studenten in de les.
10. Het is belangrijk voor mij om het in de les beter te doen dan de andere studenten.
11. In de les zet ik me in, opdat de docenten niet zouden denken dat ik minder weet dan de anderen.
12. In de les zet ik me in, opdat de anderen van de klas niet zouden denken dat ik dom ben.
13. Een reden om eventueel niet mee te doen in de les, is dat ik niet dom wil overkomen.
14. Eén van mijn belangrijkste doelstellingen in de les is de indruk te vermijden dat ik mijn werk niet aan kan.
15. Het is voor mij heel belangrijk in de les niet de indruk te geven 'stom' te zijn.
16. Een belangrijke reden waarom ik mijn werk doe is om mezelf niet in verlegenheid te brengen.



**Appendix B. Questionnaire about domain-specific learning conceptions, adapted from Bakx et al. (2003, 2006)**

Ga nu bij elke uitspraak na of dit volgens jou een goede manier van leren is. Antwoord met een cijfer van 1 tot 5 waarbij

1 = slecht

2 = onvoldoende

3 = neutraal

4 = voldoende

5 = goed

1. Bruikbare dingen die gezegd worden bij presentaties in ‘learning by doing’ letterlijk proberen te onthouden.
2. Als iemand uitlegt hoe je iets moet formuleren, vooral letten op wat iemand precies zegt en dat letterlijk overnemen voor eigen gebruik.
3. Tijdens het observeren van een presentatie opschrijven wat de professional zegt met de bedoeling dat zelf in zo’n zelfde situatie ook letterlijk toe te passen.
4. Bij het bekijken van professionele presentaties goed letten op wat de personen zeggen om dat later in soortgelijke situaties precies na te kunnen doen.
5. Tijdens het volgen van lessen vooral opschrijven wat iemand zegt, zodat je dit in praktijksituaties zelf (letterlijk) kunt gebruiken.
6. Succesvolle letterlijke ‘uitspraken’ uit je hoofd leren, zodat je ze kunt gebruiken als je in zo’n zelfde situatie terechtkomt.
7. Bij ‘learning by doing’ uitspraken van goede managers noteren, om ze later zelf te kunnen gebruiken.
8. De aanpak van professionals in het beroepsveld proberen te imiteren.
9. Bij het praten met medestudenten over hun ‘presentatie-ervaringen’ nagaan hoe zij dat aanpakken en dat vergelijken met hoe je dat zelf zou doen.
10. Bij het bekijken van een presentatie die niet goed verloopt, nadenken over hoe dat komt.
11. Bij het bekijken van een presentatie, uitspraken van medestudenten vergelijken met wat jij zelf zou zeggen, en beoordelen wat het beste werkt.

12. Tijdens de learning bij doing kijken naar studenten die in het publiek spreken en nagaan of je bepaalde situaties ook zo zou aanpakken.
13. Bij de theorie die je kent zelf voorbeelden bedenken van praktijksituaties.
14. Bij het observeren van goede managers daar ideeën afleiden over hoe jij dat zou doen.
15. Voorbeelden die de docent laat zien, vergelijken met je eigen manier van communiceren.
16. Nagaan waarom bepaalde presentatietechnieken bij bepaalde presentaties beter werken dan andere.
17. De stappen uit een presentatie goed uit je hoofd leren.
18. Communicatieregels en –technieken goed uit je hoofd leren.
19. De theorie en communicatietechnieken net zo lang herhalen totdat je precies weet hoe het moet.
20. Bij het lezen van verslagen van presentaties goed letten op wat de personen zeggen en hieruit regels afleiden.
21. Tijdens hoorcolleges voornamelijk letten op goede en minder goede communicatieprincipes.
22. Als je tips krijgt vooral letten op zaken die je in meerdere situaties kan gebruiken.
23. Principes proberen af te leiden uit de manier waarop praktijkmensen presenteren.
24. Vooral algemene regels en richtlijnen afleiden uit presentaties van anderen.
25. Als je feedback krijgt vooral letten op wat je anders moet doen en hoe, en dat goed onthouden.
26. Bij het geven van feedback aan je medestudenten bij een presentatie proberen algemene tips te geven over hoe je in een bepaald soort situatie beter kunt reageren.
27. Bij het geven van feedback aan je medestudenten op een rollenspel aangeven wat je medestudent in een volgende presentatie zou moeten zeggen, zodat hij/zij dit kan onthouden.

**Appendix C. The rubric used for the assessment of oral presentation skills.****Assessment of the oral presentation of .....**

Please encircle a mark from 1 to 5 to all the items.

You can find further clarification of the scores in the “Description of performance levels”.

**Assessor= .....**

**Content**

<b>1. Quality of introduction</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>2. Structure / timing</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>3. Quality of conclusion</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

**Delivery**

<b>4. Contact with audience</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>5. Enthusiasm</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>6. Eye-contact</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>7. Vocal delivery</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>8. Body language</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

**General impression**

<b>9. General score</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>10. Effectiveness</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

## Description of levels of performance

### Content

#### **1. Quality of introduction**

3 indicators:

- Grasps the attention of the audience already with the first presentation sentences.
- Gives a goal or central idea of the presentation during the introduction.
- Gives an idea of the structure of the presentation during the introduction

1 = meets none of the indicators

2 = meets one of the indicators

3 = meets two of the indicators

4 = meets three of the indicators

5 = meets three of the indicators in an original way

#### **2. Structure / timing**

3 indicators

- Three parts are clearly present: introduction, central part and conclusion
- The information is logically structured
- Respects timing and talks more than 2 minutes and less than three minutes and 30 seconds.

1 = meets none of the indicators

2 = meets one of the indicators

3 = meets two of the indicators

4 = meets three of the indicators

5 = meets three of the indicators in an original way

### **3. Quality of conclusion**

3 indicators

- Prepares the audience that the end of the oral presentation is being reached.
- Summarizes once more the main points during the conclusion.
- Makes requests to the audience at the end of the presentation.

1 = meets none of the indicators

2 = meets one of the indicators

3 = meets two of the indicators

4 = meets three of the indicators

5 = meets three of the indicators in an original way

<b>Delivery</b>
-----------------

### **4. Contact with audience**

3 indicators

- Is not nervous, is standing calmly in front of the audience.
- Adopts a language and examples that fit the audiences' experience and social setting.
- Creates a level of dialogue with the audience; presenter and audience react appropriate to each other.

1 = meets none of the indicators

2 = meets one of the indicators

3 = meets two of the indicators

4 = meets three of the indicators

5 = meets three of the indicators in an original way

## **5. Enthusiasm**

1 = Totally inappropriate level of enthusiasm.

Either: no enthusiasm at all, speaks as dry as a bone without contacting the audience.

Either: can not stop laughing.

2 = Either: sometimes with enthusiasm but most of the time without.

Or: some inappropriate laughter.

3 = Receives attention from the audience.

4 = Attracts attention though a dynamic approach.

5 = Attracts attention very good through original approach or the use of appropriate humour.

## **6. Eye-contact**

1 = No eye-contact. Gazes all the time at a section of the classroom, looks away from the audience or looks only at own notes.

2 = Very limited eye-contact: looks at a small part of the audience or looks for a very short time period to a larger part of the audience.

3 = Looks at the entire audience about during half the presentation. Or, looks during a longer period of time at about half of the audience.

4 = Eye-contact during almost the complete presentation, but different eye-contact depending on the part of the audience, or the eye-contact is shy, too short or too sudden.

5 = Eye-contact during almost the complete presentation, contact with different parts of the audience and a smooth way.

## **7. Vocal delivery**

3 indicators

- Volume: speaks audibly
- Appropriate rhythm: speaks not too slowly or too fast and with sufficient variation
- Grammatically correct language and no use of inappropriate dialect (words or sounds)

- 1 = meets none of the indicators
- 2 = meets one of the indicators
- 3 = meets two of the indicators
- 4 = meets three of the indicators
- 5 = meets three of the indicators in an excellent way: much variation in rhythm and volume and polished speech.

## **8. Body language**

- 1 = Inappropriate body language ('too much' or 'too little' movements) that distracts the attention from the content.
  - Too much: eye-catching swaying, annoying playing with keys or ball pen or ..., inappropriate movements, rubbing hands during about the whole presentation.
  - Too little: eye-catching immobility, standing like a statue, closed body language with arms in front of body.
- 2 = Larger proportion of inappropriate than appropriate body-language.
- 3 = About as much inappropriate as appropriate body-language.
- 4 = Larger proportion of appropriate than inappropriate body-language.
- 5 = Appropriate body-language enhances the quality of the presentation (e.g.: supporting movements of the hands). Natural body language.

<b>General impression</b>
---------------------------

## **9. General score**

- 1 = very unprofessional: scores on (almost) all the items 1 or 2 and has also additional (to the list of descriptions) negative aspects.
- 2 = less than average professional: scores of 1 or 2 on a majority of the items.

3 = average professional: scores 3 on most of the items (with a maximum of two scores that are more extreme)

4 = more than average professional: scores 4 or 5 on a majority of the items and had additional positive aspects

5 = very professional: scores on (almost) all the items 4 or 5 and has additional positive aspects

### **10. Effectiveness\***

1 = very ineffective in reaching goals

3 = average effective in reaching goals

5 = very effective in reaching goals

\* Item 10 was removed after this study on the advice of the assessors mainly because of the overlap with item 9.



## Chapter 3\*

### **The impact of an innovative instructional intervention on the acquisition of oral presentation skills in higher education**

#### **Abstract**

The present study focuses on the design and development of an instructional approach to develop oral presentation skills. The theoretical base builds on the social cognitive perspective, and self-regulated learning. The aim of the study is to investigate whether the design of a multimedia-based instructional format - comprising of a standardised multimedia instruction, practical activities, and feedback - will enhance oral presentation skills. In the study, the differential effect of three 'modes of feedback' on performance has been researched. The results reveal that oral presentation skills did improve significantly after the instruction. The multimedia nature of the design was favoured by all participants. In contrast, no significant impact of feedback was found. Nevertheless, feedback proved to be a useful process that was highly welcomed by participants.

#### **1. Introduction**

The development of oral presentation skills has received little research attention. Available studies focus on the construction of evaluation instruments (Conor, 2006; Carlson & Smith-Howell, 1995; Edens, Rink, & Smilde, 2000), or the role of self and peer assessment (Campbell, Mothersbaugh, Brammer, & Taylor, 2001; Cheng & Warren, 2005; Langan et al., 2005; Magin & Helmore, 2001; Patri, 2002). A third set of studies centres on public speaking

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\* Based on De Grez, L., Valcke, M., & Roozen, I. (in press). The impact of an innovative instructional intervention on the acquisition of oral presentation skills in higher education. *Computers & Education*.

anxiety (e.g., Behnke & Sawyer, 2000). A critical observation is that available studies especially concentrate on the question ‘what to teach?’ and not on the issue ‘how to teach?’ (e.g., Andeweg & de Jong, 1998).

The present study focuses on the design of instruction to develop oral presentation skills. This directed the analysis of the literature about instructional variables, such as the role of multimedia, or the role of evaluation. Bourhis and Allen (1998) studied e.g., the role of videotaped feedback. Jensen and Harris (1999) explored the use of a public speaking portfolio. Bayless (2004) researched the impact of placement, pacing and presentation preparatory activities. Tucker and McCarthy (2001) investigated the role of contextualized service-learning and Calcich and Weilbaker (1992) studied the optimum number of in-class presentations. A minor number of authors focus on the interaction between instructional variables and student characteristics; for example, the mediating impact of self-efficacy (e.g., Adams, 2004). The authors of the present article set up an earlier study, indicating that self-efficacy, goal setting, and attribution predicted oral presentation performance (De Grez, Valcke, & Roozen, 2006).

From the review of the literature, we have to conclude that the instructional literature about oral presentation skills is very fragmented. In addition, most studies do not build on a theory directing the design and implementation of oral presentation instruction. The present study will therefore start with the presentation of a theoretical framework, grounding the multimedia design of a standardized instructional approach.

In the next sections, a study is presented testing some basic assumptions resulting from the theory. This study focuses on the design and evaluation of an innovative instructional format to develop oral presentation skills. The traditional instructional approach was based on a theoretical lecture, presented to a large group of students ( $n = 200$  last year) by a single faculty member. After this lesson, the students were assigned to small groups ( $n = 16$  last year) and students participated with this group in three sessions, resulting in individual oral presentations. The growing discontent with this instructional format can be explained by its time-consuming nature, and the inflexible instructional format. It was hardly possible to connect the theoretical lessons to student prior knowledge, and it was difficult to motivate students to add comments to - up to - 33 oral presentations of other students. The decision was taken to move away from a teacher centred approach, and to develop a rather student oriented instructional format to develop oral presentation skills. In addition, the redesign considered the adoption of a multimedia approach, and reconsidered the position and role of assessment

and evaluation. A review of the literature and especially the explicitation of a theoretical framework have been crucial to direct the redesign of the learning environment.

The discussion of the research results will be used to discuss theoretical and instructional implications and directions for future research.

## 2. Theoretical framework

### *The social cognitive perspective on self-directed learning*

The mastery of oral presentation skills is important in professional life (Campbell, et al. 2001). Therefore it is a key competency for life-long learning in general and higher education in particular (Boud & Falchikov, 2006). But how do these oral presentation skills develop? And how can this be fostered by instruction? In the present article, we adopt a social cognitive theoretical perspective towards self-regulated learning to develop a theoretical base for oral presentation skills instruction (Bandura, 1997; Schunk, 2001a).

Social cognitive theory is very well suited to explain the development of complex behaviour such as oral presentation skills (Bandura, 2005). Complex human behaviour is – according to the theory - learned by observation through modelling (Bandura, 1986). People value particular social models during their early childhood. These models are observed in view of knowledge and skill acquisition. Also during their adult life, there is a continuous awareness of the behaviour of social models in view of knowledge and skills acquisition (Zimmerman, 2000). Observation of a social model is but a first step in the social cognitive learning process. The next step is repeated performance; as suggested by Bandura (1986, p.60): “*People who cognitively rehearse or actually perform modelled patterns of behavior are less likely to forget them...*”. Also Wouters, Tabbers, and Paas (2007) explain this transition from observation to performance as a social cognitive model of sequential skill acquisition (Zimmerman & Kitsantas, 2002). Observation is therefore the first stage in skill acquisition, and learners evolve from a - social – guided stage to a self-controlled stage, and finally to a completely self-regulated final stage. Ultimately they can regulate their performance to changing conditions (Wouters et al., 2007).

According to the social cognitive theory, people form expectations on the basis of earlier experiences, and by observing others. The latter is referred to with the concept “vicarious experiences” (Bandura, 1997). The assumption can be made that students at

university have already delivered several oral presentations. The impact of these oral presentations and the feedback they received, influenced their personal expectations about their oral presentation skills. The reinforcement mechanisms influence future behaviour. Another assumption is that higher education students have already attended a large number of oral presentations of other students and experts, and observed the consequences of those oral presentations. Good presentations resulted in applause, heated debate, strong audience involvement, or other positive consequences. Observing these students fosters learning via “vicarious reinforcement”. This influences their expectations about consequences of performing the behaviour themselves. The observed positively rewarded behaviour will likely to be adopted; depending on the real and perceived ability of the student. Expectations are - in a idiosyncratic way - stored in memory as schemata.

*Designing instruction on the base of the social cognitive perspective on self-directed learning*

It is our assumption that observational learning can be used to develop oral presentation skills. In the literature, four sub-processes of observational learning are described: attentional processes, retention processes, production processes, and motivational processes (Bandura, 1997). According to this learning cycle, the learner first has to pay sufficient attention to the knowledge/skill to be learned, and has to process and store the information. Next he/she has to apply the newly stored knowledge/skill, while being sufficiently motivated to do so. The four sub-processes will be outlined below in view of grounding in more detail the multimedia instructional design, adopted in the present study.

*Attentional processes*

Instruction is able to influence attentional processes by selecting, and involving high quality social models. This underpins the value of “videotaped” behaviour of models. First, the multimedia format guarantees a constant quality, according to preset standards. Secondly, teachers can build on a variety of models that are “valued” by the students. This variety of models also helps to counter selective attention of students. The research literature about modelling also indicates that it enhances self-efficacy. Models, who share common attributes with observers, produce significantly greater gains in self-efficacy (Adams, 2004; Baldwin, 1992; Schunk, 2001a). Tucker and McCarthy (2001) report comparable results and argue that people observing peers, report subsequently higher self-efficacy levels. Baldwin (1992) and

Schönrock-Adema (2002) found that trainees who were exposed to both positive and negative models achieved higher scores on behavioural generalization.

In presenting the multimedia "model", performance has to be linked with positive consequences. In the instructional format, selective attention of learners can be influenced by rewarding the models for behaviour that meets preset oral presentation criteria.

#### *Retention processes*

The demonstrated behaviour, reflecting the standards and criteria, is processed, and stored in memory. Instruction can foster this processing and storage activity by building again on the multimedia nature of instruction. The cognitive multimedia theory (Mayer, 2001) stresses the importance of presenting information in a visual and an auditory way; this is also called the 'dual channel assumption' (Paivio, 1978). Retention is enhanced when instruction presents both visual and audio cues. An advantage of respecting the dual-channel assumption is that we use the cognitive capacity of both channels, and thus counter the "limited capacity assumption" of our cognitive processing system as explained by the 'cognitive load theory' (e.g., Sweller, 2006).

Recently also Wouters et al. (2007) present comparable research-based guidelines that to promote learning on the basis of video-based models. Next to the above, he stresses the importance of pacing. Higher learning performance is associated with learner-control of the video (e.g., control of speed, backward and forward screening). In this way learners are able to "adapt" the model to their cognitive needs. In view of the present research, we adopted this theoretical framework when designing and developing the standardised multimedia instruction.

#### *Production processes*

The social cognitive perspective stresses the importance of giving opportunities to practise behaviour that has been modelled. Whereas the first two sub-processes are related to cognitive activities, this third set of processes is related to behaviour that will elicit feedback when it is being assessed. This implies that we have to invite learners to perform specific behaviour. At this stage, instruction should give a central role to feedback. Nicol and Milligan (2006, p. 64) define the latter as: "feedback is information about how a student has performed in relation to some standard or goal (knowledge or results)". Feedback can be external or internal. Instruction can provide external feedback, but has to foster at the same time internal feedback.

The ultimate goal is that the learner becomes self-monitoring. Winne (2004)

distinguishes between monitoring and metacognitive monitoring. Monitoring happens when someone compares his presentation with a standard for example, about ‘giving a conclusion during a presentation’ and notices that he/she did not present a final conclusion. Metacognitive monitoring implies that the same person continuously screens the personal behaviour by saying “I have to think in advance about conclusions and write them down...” Metacognitive control interferes with actual performance and is related to decision making about: continue, adapt or abandon behaviour. If monitoring is the basis of metacognitive control, than it has to be accurate. For instance, when somebody concludes during monitoring that he speaks loud enough, while this is not the case, he will make the wrong decision and will not adapt his behaviour. This is called “poor calibration” of behaviour. “Calibration is a measure of the relationship between confidence in performance and accuracy of performance” (Stone, 2000, p.437). Accurate calibration seems a necessary condition for productive self-regulating learning (Winne, 2004) and to attain high achievement levels (Garavalia & Gredler, 2002).

External and accurate feedback can enhance calibration (Stone, 2000). Watching one’s own recorded oral presentation, can be an excellent help to provide accurate feedback and can result in higher performance (Bourhis & Allen, 1998). We can relate this instructional design guideline to the observation of Schunk (2001a), who reported that self-modelling by observing one’s own videotaped performance brought about cognitive and behavioural change. In addition, experts can provide additional external feedback. Recent studies especially point at peers as providers of external feedback (Birenbaum, 2003).

In summary, three sources of feedback can be used to direct and influence production processes: (1) information obtained via self-assessment and external feedback sources from (2) peers or (3) experts during formative assessment activities. The former makes clear that the production processes build on assessment that is geared towards providing learners performance feedback in view of improving and accelerating learning (Sadler, 1998). The instructional format – based on videotaped oral presentations – can therefore build on these types of evaluation, and feedback.

### *Motivational processes*

The motivational processes are linked to the production processes. Production is enhanced, by providing – external or internal – information (feedback) about behavioural performance. This information is stored in memory. External incentives can be used, such as grades or approval,

but also internal motivators can be used. People are more likely to perform what they have observed if it results in valued outcomes.

At a theoretical level, the concept of goal setting can be linked to motivational processes. The attentional, retention, and production processes will affect the personal goal-setting of learners. Instructional design can additionally support the goal-setting. Schunk (2001a) stresses in this context that when people accept and commit themselves to assigned goals, they can be equally well motivating as self-set goals (Schunk, 2001b). An example, incorporated in the multimedia intervention, is the reference that is being made by a social model to the value of oral presentations for future professional life. Zusho, Pintrich, and Coppola (2003) clearly point at the importance of relating instruction to the task value, illustrated in this example.

### *The impact of personal characteristics*

Only a limited number of studies have focused on learner characteristics that interact or are influenced in the context of the development of oral presentation skills: estimation of personal performance, goal orientation, and perceptions of the learning environment.

Closely related to the social cognitive perspective, it is clear that the personal estimation of the quality of actual performance – based on self-observation - is a crucial variable. It plays a mediating role in the attentional, retention, production, and motivational processes described above (Bandura, 1997). Since motivational processes are the catalyst in the overall social cognitivist learning process, also the nature of the personal goal-setting behaviour is of importance. In this context, Smith, Duda, Allen, and Hall (2002) distinguish between three goal orientations: task goals, performance approach goals, and performance avoidance goals. Smith et al. (2002) report research findings that highlighted positive motivational outcomes related to the adoption of a mastery goal orientation, the association of negative outcomes with performance avoidance goals and mixed findings for performance approach goals.

In instructional environments research, the perceptions of the learning environment are considered to have a pervasive influence (see e.g., Biggs, 1985; den Brok, Brekelmans, & Wubbels, 2007). This calls for a study of students' perceptions to evaluate the nature and quality of educational interventions (see e.g., Khoo & Fraser, 1998). In the present study, we focus in particular on perceptions about the way (self and peer) assessment has been incorporated into the multimedia instructional design (Sluijsmans, 2002).

### 3. Research Design

As stated earlier, empirical research about instruction related to the acquisition of oral presentation skills, is scarce. The present study is therefore an attempt to evaluate a multimedia instructional approach that is grounded in social cognitive theory.

#### *Research Questions*

Considering the theoretical base, a number of key variables and processes is assumed to have a differential effect on the acquisition of oral presentation skills: the multimedia presentation of social models, and the evaluation and feedback on the delivery of oral presentations. In addition, student characteristics are expected to play a mediating role. This brings us to the following research questions:

1. What is the impact of a standardized multimedia instructional intervention, based on the social cognitive perspective on self-directed learning, with embedded evaluation feedback and practice on the acquisition of oral presentation skills?
2. Is the impact from peer feedback on oral presentation performance as large as the impact of feedback from experts or from self observations?
3. What are the interaction effects of learner characteristics and instructional formats on oral presentation performance? Is there a positive association between performance and a mastery goal orientation? Is there a negative association between performance and a performance avoidance goal orientation?
4. What are the students' perceptions about the characteristics and nature of the multimedia learning environment?

The research questions were studied in the context of a pre-test, post-test quasi-experimental research design that is described in table 3.1. All research participants participated in two phases of an instructional intervention. The first phase of the intervention was equal in all research conditions, started with a pretest oral presentation and consisted of a multimedia instructional package about oral presentations. During the second phase of the



study, participants were randomly assigned to three experimental evaluation-feedback conditions. After each phase, post-tests were presented to participants.

Table 3.1

Overview of the research procedure

	Condition 1: feedback from professionals	Condition 2: feedback from peers	Condition 3: feedback through self-assessment
Step 1	Administration questionnaire 1	Administration questionnaire 1	Administration questionnaire 1
Step 2	Oral presentation 1	Oral presentation 1	Oral presentation 1
Step 3	Standardised multimedia instruction	Standardised multimedia instruction	Standardised multimedia instruction
Step 4	Oral presentation 2	Oral presentation 2	Oral presentation 2
Step 5	Feedback from professionals	Feedback from peers	Feedback through self- assessment
Step 6	Oral presentation 3	Oral presentation 3	Oral presentation 3
Step 7	Administration questionnaire 2	Administration questionnaire 2	Administration questionnaire 2

### *Research participants*

The participants were 73 university freshman enrolled for a Business Administration introductory course about psychology. Students were – as a formal part of this course - expected to prepare and deliver three short oral presentations (on average 3 minutes). A complete data set could be obtained from 57 participants (36 male – 21 female). Drop-out was non-systematic and related to reasons outside the scope of the study (illness, overlap with other course obligations, and conflict in roster).

### *Research instruments*

#### *Assessment instrument for ‘oral presentation performance’*

In a preliminary study (De Grez et al., 2006) – based on the analysis of oral presentation literature - a rubric was constructed consisting of nine evaluation criteria: three content-

related criteria (quality of introduction, structure, and conclusion), five criteria about the nature of the delivery (eye-contact, vocal delivery, enthusiasm, interaction with the audience, and body-language), and a general quality criterion. The content-related criteria are linked with the synthesis capability and quality of presenters. A factor analysis of the instrument underpinned the validity and reliability of the instrument. Assessors are asked to rate the quality of a presentation according to these criteria on a 5 point Likert scale. Descriptors and indicators are provided as a help to direct the assessment process. The assessment instrument can be found in appendix A of chapter 2.

All the oral presentations were evaluated – on the base of the rubric - by assessors who were not aware whether they assessed a student's first, second or third oral presentation. In addition, assessors were not aware of the guiding research questions of this study. Expert assessors were trained higher education teachers, not personally involved in the teaching of the research participants, but affiliated to the same educational institute. Peer assessors were second year students in Business Administration. These activities were set up as part of a communication course during which these students had extensive practice in using the assessment instrument.

To assess their goal-orientation, personal performance estimation, and their perception of the nature and characteristics of the multimedia learning environment, two questionnaires were presented to the participants.

#### *Questionnaire 1:*

*Goal orientation measure: PALS.* The Patterns of Adaptive Learning Survey (PALS), developed by Midgley et al. (1998) and adapted by Smith et al. (2002) was presented to determine three goal orientations of the participants (task goal, performance approach, and performance avoidance). The PALS was translated into Dutch following the 'parallel blind technique' (Behling & Law, 2000). Reliability analysis of the Dutch version showed a high reliability score for the performance avoidance scale ( $\alpha = .81$ ) and the performance approach scale ( $\alpha = .83$ ), and a lower reliability score ( $\alpha = .62$ ) for the task goal scale (De Grez, Valcke, & Roozen, in press). The questionnaire can be found in appendix A of chapter 2.

*Personal performance estimation.* We asked the participants to score the quality of their own oral presentation by using the nine criteria of the assessment rubric.

*Perception of 'peer assessment'*. A subscale focusing on “perception of peer assessment” was adopted from the questionnaire developed and validated by Sluijsmans (2002). The original subscale consists of seven items, with an alpha reliability coefficient of .74. One item was omitted from the scale, and a few words in other items were changed in order to adapt the subscale to the specific oral presentation situation. The questionnaire can be found in appendix A of this chapter.

#### *Questionnaire 2: The learning process*

Next to the subscale derived from the instrument of Sluijsmans (2002), participants were asked to report their perceptions about (1) their learning process (e.g., How much time did you spend preparing the oral presentation? How much did you like the key instructional elements? How much did you learn from the key instructional elements?); and (2) perceptions regarding their own progress (e.g., Are you happy with the progress you made? What was the role of a number of internal and external attributions?)

#### *Research procedure*

At the onset of the research procedure, all participants started by giving a first oral presentation. This helped to determine - for each individual student - a baseline to study future changes in the quality of their oral presentation skills.

After delivery of the first oral presentation, each participant studied individually a standardised multimedia instructional programme on the computer. Figure 3.1 pictures two screen-dumps of the multimedia instructional package to support training and assessment of oral presentation skills.

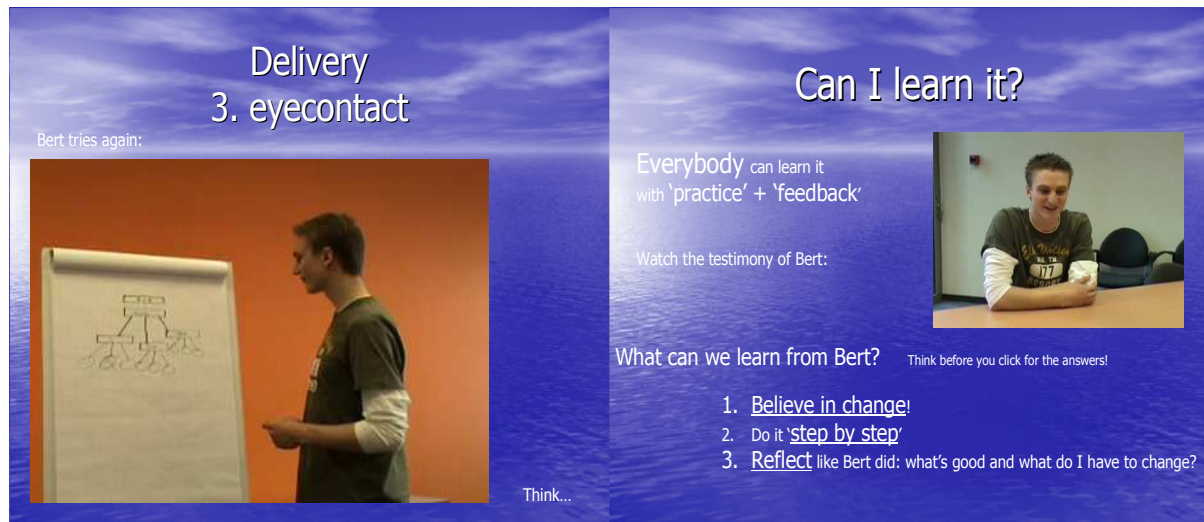


Figure 3.1. Two screen-dumps of the multimedia instructional package to support training and assessment of oral presentation skills.

Since we wanted participants to learn via observation (Bandura, 1997), short video clips were presented to the learners that illustrated successful behaviour in relation to the nine rubric criteria. The collection of video clips is incorporated into a computer-based multimedia instructional package about the do's and don'ts of an oral presentation. Four peer students (three male and one female) are used as models. The instructional package consists of four parts.

In the first part of the video-based instruction, an answer is given to the question “why should I learn how to present?” The content reflects a ‘mastery goal orientation’ and a ‘performance approach goal orientation’ and builds on the testimony of a female manager. This testimony shows that oral presentation skills are highly valued in professional life.

The second part builds on the testimony of a male student and focuses on learning strategies. In line with the theoretical framework (Bandura, 1997), the social model tells about the difficulties he had in dealing with “the presentation assignment” and how he reflected on his learning strategy, changed it, and was successful in the end (applause from the audience and complimented by the teacher). Tucker and McCarthy (2001) report that such a testimony can enhance self-efficacy, and this can be a motivational construct that predicts the presentation performance (De Grez et al., 2006). The model also stressed the importance of self chosen, proximal, and attainable goals (Schunk, 2001a). He also attributed success to practicing. Such internal attributions have a positive impact on motivation and on performance (see e.g., Eccles & Wigfield, 2002).

In the third and main part of the multimedia instruction, the nine criteria of the assessment instrument (cfr. supra) are illustrated with 14 subsequent, but related video clips. Analogous to studies mentioned earlier (Baldwin, 1992; Schönrock-Adema, 2002), a mixture of social models was involved to perform the desired behaviour (nine video clips) and demonstration of the opposite of the desired behaviour (five video clips). In order to stimulate reflection, participants are asked after each video clip to think first about what they saw and then click for some additional information about the criterion.

In the fourth and last part of the instruction, students get the opportunity to practice the use of the assessment criteria. This part reflects the third set of processes in observational learning (Bandura, 1997). Participants are invited to assess a video recording of an oral presentation, on the base of the nine criteria presented earlier.

The individual participants completed the instructional package at their own pace in a quiet computer room, and in the presence of the researcher. No time limitations were enforced. Individuals could also replay video clips as many times as they wanted (student control). Average time to finish the complete instructional package was about 45 minutes.

After studying the instructional package, students filled out individually questionnaire 1 in the presence of the researcher.

In view of the second phase in the study, students were assigned to one of three feedback conditions. During this phase students delivered a second and a third oral presentation. This guarantees that – considering the role of production processes in the social cognitive perspective – sufficient opportunities to practise the behaviour are provided. Participants received – depending on the research condition – an alternative type of feedback via the computer. Feedback either consisted of an evaluative mail message building on the nine rubric criteria. This feedback could have been developed by an expert or a peer. In a third condition, participants were supported online to develop internal feedback via a self-assessment of a video recording of their own presentation.

After the evaluation and feedback activity related to the third presentation, individual participants completed the second questionnaire, described earlier.

#### 4. Research Results

##### *Quality of the research instruments*

Table 3.2 summarizes the analysis results in view of an initial control of the psychometric quality of the scales used in the study. Analysis results reflect reliability indices of the scales and subscales that are acceptable to good.

Table 3.2  
Psychometric quality of scales and subscales

	$\alpha$	$M$	Standard deviation
1 PALS task goal <sup>a</sup>	.62	3.87	.63
2. PALS performance approach	.76	2.47	.76
3. PALS performance avoid	.72	2.45	.73
4. Perception of peer assessment (first questionnaire)	.80	3.67	.76
5. Perception of peer assessment (second questionnaire)	.69	4.11	.54
6. Personal performance estimation	.63	2.82	.40
7. Qualitative preparation	.63	2.75	.80
8. Quantitative preparation	.78	1.54	.56
9. Liking of the instruction elements	.83	6.12	1.27
10. Learning from the instruction elements	.75	6.88	1.05

Note: subscales 9 + 10 are ten point Likert scales.

<sup>a</sup> = with two items deleted

*What is the impact of a standardized multimedia instructional intervention, based on the social cognitive perspective on self-directed learning, with embedded evaluation feedback and practice on the acquisition of oral presentation skills?*

The impact of the instruction was measured by comparing the scores on the assessment instrument for the three oral presentations. First, we compared the overall quality of the oral

presentations on the base of a sumscore that reflects the nine assessment criteria in the instrument.

A repeated-measures analysis of variance with Greenhouse-Geiser correction was carried out to assess whether significant differences could be observed in the subsequent quality of the three oral presentations. Results point at a significant increase in performance ( $F(1.96, 90.2) = 9.98, p < .001, \eta^2 = .18$ ). Descriptive results already suggest an increase in oral presentation skills from presentation one ( $M = 2.34$ ) to presentation two ( $M = 2.58$ ) and to presentation three ( $M = 2.72$ ). Polynomial contrasts reflect a significant linear trend ( $F(1,46) = 22.21, p < .001, \eta^2 = .33$ ).

Table 3.3

Average performance scores and comparison of performance over time

assessment criteria	Mean	Mean	Mean	<i>t</i>	<i>p</i> and <i>d</i>	<i>t</i>	<i>p</i> and <i>d</i>	<i>t</i>	<i>p</i> and <i>d</i>
	pres. 1 <sup>a</sup>	pres. 2	pres. 3	pres. 1-3		pres. 1- 2		pres. 2- 3	
Introduction	1.91	2.45	2.60	4.99	.00*** ( <i>d</i> =.85)	3.78	.00*** ( <i>d</i> =.75)	1.28	.20
Structure	2.41	2.72	2.90	3.31	.00*** ( <i>d</i> =.56)	1.79	.07	.95	.34
Conclusion	1.48	2.04	2.15	4.20	.00*** ( <i>d</i> =.79)	4.30	.00*** ( <i>d</i> =.78)	.70	.48
Body language	2.12	2.30	2.49	2.31	.02* ( <i>d</i> =.36)	1.37	.17	2.01	.04* ( <i>d</i> =.27)
Contact audience	2.65	2.77	3.06	3.87	.00*** ( <i>d</i> =.59)	1.34	.18	2.31	.02* ( <i>d</i> =.43)
Enthusiasm	2.47	2.51	2.76	1.95	.06	.49	.62	.241	.01** ( <i>d</i> =.32)
Eye-contact	2.60	2.79	2.78	1.61	.11	1.42	.16	.03	.97
Vocal delivery	3.05	3.06	3.20	1.20	.23	.06	.94	.97	.33
General score	2.37	2.52	2.68	3.05	.00*** ( <i>d</i> =.43)	1.55	.12	1.51	.13
Sum score of 9 criteria	2.35	2.58	2.70	4.52	.00*** ( <i>d</i> =.61)	3.04	.00*** ( <i>d</i> =.39)	1.38	.17

<sup>a</sup> pres. = presentation, \*  $p < .05$ , \*\*  $p \leq .01$ , \*\*\*  $p < .001$

The overall oral presentation skill did improve significantly between the first and second presentation with an overall 10.0% ( $t = 3.04, p = .004$ ). There is an overall and significant increase in the quality of oral presentation skills (sum of the nine criteria) between the first and third presentation. As can be derived from table 3.3, there is an average increase in performance of 14.9% for all the subjects ( $t = 4.52, p < .001$ ). Cohen's *d* indicates a moderate effect size ( $d = .61$ ).

More detailed analysis of the performance related to each of the nine specific evaluation criteria reveals that performance increased significantly for six out of nine oral-performance scores between the first and third oral presentation. In terms of effect size, the positive impact of the intervention is large for the subscale Introduction ( $t = 4.99, p < .001, d = .85$ ) and Conclusion ( $t = 4.20, p < .001, d = .79$ ). This can be related to lower initial performance scores. Effect sizes of the other significant differences are moderate.

*Is the impact from peer feedback on oral presentation performance as large as the impact of feedback from experts or from self observations?*

Next to the standardised multimedia instructional intervention that was equal for all participants, three alternative feedback interventions were introduced in the second phase of the study. The overall oral presentation skills improved on average with 4.8% between the second and third presentation. But, this increase in performance is not significant ( $p = .173$ ) and relatively low compared to the amelioration between the first and the second presentation. The mean scores for the third presentation were higher than the mean scores on the second presentation for eight of the nine criteria (not on eye contact) but only significantly higher for three criteria (Body Language, Contact with audience, and Enthusiasm).

To further investigate the differential impact of the alternative feedback conditions, a one-way analysis of variance was carried out. No significant impact of feedback mode – from a professional, from peers or self assessment – could be observed on the progress made between presentation two and three ( $F(2,46) = 1.15, p = .32$ ), and on the performance on presentation three ( $F(2,50) = 2.58, p = .09$ ). An additional analysis of covariance was used to assess the differential influence of the three feedback modes after controlling for differences in the initial presentation skills. The differences in the covariate (presentation one) are – as expected – significant, but the resulting differences due to the feedback modes are not significant ( $F(1,41) = .16, p = .86$ ). Nevertheless, the analysis results make clear that the progress for global presentation skills between presentation two and three was the largest (13%) for the participants who received feedback from professionals. The progress was smaller (7,5%) for those who received feedback from peers and very small (0,2%) for those who developed feedback through self-assessment.



*What are the interaction effects of learner characteristics and instructional formats on oral presentation performance?*

Only one significant interaction effect of a learner characteristic and instructional formats (feedback alternatives) on oral presentation performance was found and this was a linear interaction effect for the subscale Task Goal orientation of the PALS ( $F(1,42) = 4.56, p = .04$ , partial  $\eta^2 = 0.10$ ). No other significant interaction effects of learner characteristics and differential instructional formats (feedback alternatives) on oral presentation performance were detected. This is the case for the quality ( $F(1,45) = .84, p = .36$ ) and the quantity of the preparation ( $F(1,45) = .24, p = .63$ ), and for the personal performance estimation ( $F(1,47) = .06, p = .81$ ). Results also indicated no interaction effects of goal orientation, considering the two subscales of the PALS: performance approach ( $F(1,42) = 2.61, p = .11$ ) and performance avoidance ( $F(1,42) = 1.14, p = .29$ ). There were also no interaction effects with how much learners liked the key instructional elements ( $F(1,43) = 0.9, p = .77$ ) or how much they learned from the key instructional elements ( $F(1,43) = .2, p = .89$ ).

No significant correlation was observed between personal performance estimation, goal orientations, and oral presentation performance.

As to internal and external attributes, the internal attribution item ‘preparation’ and the external attribution ‘the kind of prescribed topic’ receive the highest score.

When participants are asked to clarify their motivation to study ‘presentation skills’, the following motives receive the highest scores: “importance for future professional life”, and “importance for personal development”.

*What are the students’ perceptions about the characteristics and nature of the multimedia learning environment?*

When participants evaluated the learning environment, the highest appreciation scores are reported in relation to the ‘standardised instruction on computer’ and the ‘video clips’. When asked to indicate how much they learned from it, ‘feedback’ got the highest scores, followed by the ‘video clips’.

Perception and appreciation of instruction did not differ significantly between the three experimental groups. No significant differences were found in appreciation of the leaning environment ( $F(2,52) = .75, p = .47$ ) or the learning potential ( $F(2,54) = .83, p = .44$ )

Also, no significant differences were found in the appreciation of peer-assessment ( $F(2,54) = .091, p = .91$ ). But it is to be stressed that participants hold a very positive view of peer assessment, with a mean of 4.1 on a five point Likert scale.

## 5. Discussion and conclusions

The central aim of the present study was to design and develop a theory based multimedia instruction to develop oral presentation skills. The instructional format reflects elements of the social cognitive perspective on self-regulated learning (Bandura, 1997; Schunk, 2001a). Much time and energy was invested in developing this theory-driven instructional format. In addition, three alternative types of feedback were manipulated in the quasi-experimental design. Since the study was set up in the context of an authentic educational program, problems did arise in the experimental design of the study. Due to the obligation to provide optimal instructional conditions to all students enrolled in the programme, no control condition could be defined that excluded a subgroup from extra investments in support and feedback of their learning process. In the next section, results of the study will be discussed and – when possible – mirrored to the scarce number of empirical studies available in the literature.

As expected, oral presentation performance increased significantly. On the base of the evaluation rubric criteria, this significant increase in oral presentation performance could be traced back to a general increase in competence and to specific oral presentation criteria. Participants did enhance their oral presentation skills, but it seems that the intervention did not affect all the criteria in a comparable way. This could reflect weaknesses in the specific intervention geared to specific oral presentation skills. This could also be an indicator of the difficulties to influence particular features of oral presentation skills. The effect sizes for the significant improvement of behaviour related to ‘introduction’ and ‘conclusion’ were large. But no significant changes were observed in relation to ‘eye contact’ and ‘vocal delivery’. This could refer to differences in the nature of these sub skills that are easier to influence on the base of a social modelling instructional approach.

The traditional instructional format to develop oral presentation skills was shortly described in the introduction to this article and more extensively in another publication (De Grez et al., in press). It is tempting to compare the traditional and innovative approach, but this has to be done in a careful way. Despite many similarities in the instructional setting,

there are also differences to consider. Students in both settings have the same background, follow the same courses and had to deliver three short oral presentations. But the innovative instructional format did not only differ due to the multimedia approach, but also due to the smaller group setting, and the restricted attention paid to goal formulation.

Taking into account these restrictions, the student performance in both instructional settings can be compared. The overall reported increase in performance between presentation one and three reported above was 14.9% ( $d = .61$ ) and was 15.6% ( $d = .64$ ) the year before. Performance increased – in both settings - most in relation to the content criterion “introduction” and least for the delivery criteria “eye contact” and “vocal delivery”. These particular results need further investigation, but it can be concluded – in a cautious way - that the innovative more learner oriented instructional format did not result in a lower performance level. In addition, the results also indicate that all the participants completed the standardised multimedia instruction in an efficient way (within time set), and pinpoint at the possibility to present a more individualised and motivating learning setting. But, the results can also be approached in an alternative way. Since we did not distinguish between the multimedia presentation and the opportunities to practice the oral presentation skills, we cannot conclude which part or whether the combination of the multimedia presentation and the opportunities to practice resulted in the increase in performance.

Due to the design of the study, questions remain unanswered. Since the multimedia base of the instructional format was not manipulated in the experimental design, the added-value of the specific multimedia design cannot be analysed. Future research could centre on a manipulation of multimedia features and for example, the control embedded in the computer environment; contrasts with media-low interventions; comparison with control groups; and so forth.

With regard to the second research question, we have to conclude that no differential impact could be observed from the three alternative feedback conditions. This seems to be in conflict with earlier studies about the differential impact of types of feedback (Bourhis & Allen, 1998).

These findings can be explained by the short duration of the second phase of the study. This second phase was too short to expect an additional increase in performance. The disentanglement of the impact of observation and extensive practice remains an important issue in the literature about attaining self-regulation (Zimmerman, 2001; Schunk, 2001a) and can be related with the developmental levels of self-regulatory competence. The immediacy of delivering (peer and self assessment) feedback, could be less manageable for some students

considering the time it takes to evaluate the recorded oral presentations. Also other studies urge for the timing of the feedback (e.g., Marzano, Pickering, & Pollock, 2001). Additionally, in order to standardize the experimental conditions, all participants did only receive outcome related feedback. This is in contrast with instructional guidelines that ask to include process and calibration related feedback as well (Stone, 2000). In future research, care should be taken to set up long term studies, where the timing of the multimedia instruction and the timing of developing feedback skills can be altered. Participants need time to develop a personal frame of reference as to the standards of a good oral presentation, need time to practice the skills and the standards. This reflects the necessary attention to be paid to metacognitive monitoring (Winne, 2004).

With regard to the third research question, only one significant mediating personal characteristic (taskgoal orientation) could be detected. Nevertheless, analysis of individual characteristics indicates some positive elements. Considering the list of internal and external attributes, the internal attribution 'preparation' receives the highest score, and the external attribution 'presentation topic' also scores very high. This last finding is in accordance with our findings about the strong impact of the nature of the presentation topic in a previous study (De Grez et al., 2006). Contrary to expectations from literature (e.g., Bandura, 1997), no correlation was found between personal performance estimation and oral presentation performance. Neither was there an association between goal orientations and performance, while studies generally associate mastery goals and in some cases also performance approach goals, to higher performance (e.g., Pintrich, 2003).

With regard to the fourth research question, the conclusion can be made that participants highly appreciate the multimedia nature of the instruction, based on the video clips that present social models. Participants also point convincingly at the potential of feedback. They appreciate the feedback as a key feature of the instructional format. They report that they consider oral presentations skills as critical and important skills to be developed. The latter is very important in the light of the sub processes of observational learning (Bandura, 1997).

Finally, we can conclude that the present research design can be a valid base to set up future studies in relation to instructional interventions that aim at developing oral presentation skills. These studies should also centre in more detail on the evaluation of the theoretical base of the instructional format, and to explore alternative design approaches. These latter can be related to the multimedia nature of the instruction, learner control features, the duration of the study, the pacing and timing of feedback, and/or the way student performance depends on

individual characteristics. Additionally, further investigation should centre on alternative elaborations of the training and timing of self and peer assessment. Both forms of assessment are expected to lead to a greater degree of self regulated learning (Nicol & Milligan, 2006).

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**Appendix A.** Perception of 'peer assessment'.

Adapted from the questionnaire of Sluijsmans (2002).

Bij de volgende vragen geef je uw mening weer via een cijfer van 1 tot 5 waarbij

1 = niet akkoord

2 = voor een groot deel niet akkoord

3 = neutraal

4 = voor een groot deel akkoord

5 = helemaal akkoord

1. Ik vind dat studenten elkaar moeten kunnen beoordelen bij presentaties.
2. Elkaar beoordelen bij presentaties is leerzaam.
3. Ik zie het nut niet in van elkaar beoordelen bij presentaties.
4. Ik kan leren van feedback van medestudenten bij presentaties.
5. Ik vind dat ik veel kan leren van medestudenten bij presentaties.
6. Elkaar beoordelen bij presentaties moet je leren.

## Chapter 4\*

# Self- and peer assessment of oral presentation skills in higher education

### Abstract

Assessment of oral presentation skills is an under explored area. The present study focuses on the agreement between professional assessment and self- and peer assessment of oral presentation skills and explores student perceptions about peer assessment. Results show that self- and peer assessment result in significantly higher marks as compared to professional assessment. Generalizability analysis revealed that combining assessment scores of four peers already helped to attain a sufficient level of reliability. The results also reflect a very positive attitude of students towards peer assessment as a relevant source of external feedback.

### 1. Problem statement

Oral presentation skills are recognised as a central professional skill (Campbell, Mothersbaugh, Brammer, & Taylor, 2001). Therefore, higher education should prepare students to develop and master these skills. This study concentrates on the assessment of oral presentation skills but this does not imply that knowledge is not important. We choose for skills because knowing how to present is still no guarantee for showing. We define oral presentation skills in this study as the complex of two clusters of related skills: (1) delivery related skills: eye-contact, vocal delivery, enthusiasm, interaction with the audience, body-language and (2) content related skills: quality of introduction, structure, and conclusion.

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\* Based on De Grez, L., Valcke, M., & Roozen, I. (2008). Self- and peer assessment of oral presentation skills in higher education. Manuscript submitted for publication in *Educational Research*.

The study focuses on the implementation of an assessment format for oral presentation skills and the reason for this innovation is briefly described hereafter. Traditional assessment approaches consisted of oral feedback provided by faculty, immediately after the delivery of the presentation by the student. Feedback remained short considering the large group of students to be supported ( $N = 200$ ) while delivering three individual oral presentations in small group settings ( $N = 16$ ). On the one hand there was a growing discontent with this time-consuming assessment approach. On the other hand this approach was pressurized, considering recent developments in relation to assessment procedures. In the present context, especially the switch in assessment responsibilities from teacher to students played a crucial role (Segers, Dochy, & Cascallar, 2003). This also builds on the claims of this reorientation as to student involvement and the impact on related performance (Falchikov, 2005). This reorientation inspired us to look for an alternative, student-oriented assessment approach.

## 2. Theoretical and empirical background

### *Qualities of assessment*

Stressing the learning benefits of assessment leads us to formative assessment and this form of assessment is defined as “assessment that is specifically intended to provide feedback on performance to improve and accelerate learning” (Nicol & Milligan, 2006, p. 64). The quality aspect that checks the influence of the assessment on student behaviour and learning is sometimes called the ‘consequential’ validity (Gielen, Dochy, & Dierick, 2003). This description regards it as a part of validity and this concept is together with reliability traditionally used to evaluate the psychometric quality of assessment. Wiersma and Jurs (2005) define (1) reliability as the consistency of the instrument in measuring what it measures and (2) validity as the extent to which the instrument measures what it is designed to measure.

Involvement of students in assessment can be organised in two ways: peer assessment and self-assessment. In peer assessment, according to Falchikov (2005, p.27), “(...) students use criteria and apply standards to the work of their peers in order to judge that work”. Building on the latter, we state that in self-assessment students use criteria and apply standards to judge their own work.

*The theoretical position of self and peer assessment in a self-regulated learning process*

Oral presentation skills are partly learned through observational learning (Bandura, 1997). The latter is in line with the social cognitive perspective towards self-regulated learning (Schunk, 2001). Via observational learning, learners compare their performance or the performance of others with more or less explicit standards. The oral presentation skills will evolve by achieving a better fit between the standards and the current performance level (Sadler, 1989). Both internal and external sources of feedback are helpful to foster the calibration process to attain higher performance levels in the context of productive self-regulated learning (Winne, 2004). The calibration activity can be fostered by providing opportunities for self assessment. External feedback from peers can play a comparable role (Topping, 1998). Both self- and peer assessment help to decrease the central role of the teacher in assessment activities. During the last decades, there has been an increase in the implementation of self- and peer assessment in higher education learning environments (e.g., Segers et al., 2003). Despite the latter, formative assessment in higher education is still largely controlled by the teachers (Nicol & Macfarlane-Dick, 2006). An accurate calibration of oral presentation performance and the standards suggests that a sufficient level of reliability can be achieved when the same assessment result are attained whether the performance is assessed by a teacher/expert, by peers, or by the learner.

Analysis of the literature about the assessment of oral presentation skills, results especially in an overview of studies about peer- and self-assessment of individual (oral) presentation skills (AlFallay, 2004; Campbell et al., 2001; Cheng & Warren, 2005; Hafner & Hafner, 2003; Hughes & Large, 1993; Langan et al., 2005; Magin & Helmore, 2001; Oldfield & Macalpine, 1995; Patri, 2002; Selinow & Treinen, 2004). In some studies, only part of the research focuses on peer or self-assessment (e.g., Fallows & Chandramohan, 2001). In other cases, group presentations are assessed (e.g., Miller, 2003).

*Benefits of self- and peer assessments.*

In the different studies, the potential of peer and self-assessment is clearly stressed. Falchikov (2005, p.16) posits that “(...) involving students in the assessment of presentations is extremely beneficial”. She explains that peers involved in assessment have to concentrate more on performance and that they develop the skills of analysis and application of criteria

and also develop tact. Cheng and Warren (2005) cite several studies that reported e.g., improved presentation performance due to peer assessment. Other authors adopt in this context videotaped feedback for self-assessments, and also report attainment of better oral presentation skills (Bourhis & Allen, 1998). Topping (1998) dedicates part of his review of the literature about peer assessment to the assessment of oral presentation skills. He summarizes findings of several studies, referring to improvement in marks, perceived higher learning performance, higher confidence (self-efficacy), and the development of appraisal skills. Cooper (2005) adds that the focus on the presentation performance of others can be enhanced by the use of reflection sheets and Shaw (2001) argues that peer assessment connects students with each other in a learning community.

Topping (2003) mentions potential economical benefits as a second purpose of implementing self- and peer assessment. Shifting part of the responsibilities for assessment and feedback from the teacher to the student has – next to educational benefits – also benefits in terms of staff workload.

*Inter-rater reliability of self- and peer assessments.*

There is a considerable debate in the literature about the inter-rater reliability of self- and peer assessment but first a fundamental remark about the research. As indicated by Topping (2003), it is very common in research about reliability to compare self- and peer assessments to assessment by professionals (teachers). Topping (2003) stresses that the a priori assumption that assessment by a teacher is reliable and valid, can be doubted in some contexts. This assumption relates to a positivist epistemological perspective upon assessment (Elton & Johnston, 2002) that believes in an objective, scientific measurement. It is therefore remarkable that no research was found that tested this assumption, and that the use of professional assessments is in many cases not approached with due caution as asked by some authors (e.g., MacAlpine, 1999).

But let us take a closer look at the literature about assessment of oral presentation skills. Freeman (1995) concludes in his study that there is no significant difference in the overall mark averages given by peers or given by professional assessors. In contrast, Langan et al. (2005) report that peer marks are on average 5% higher than marking by their tutors. Other studies based on correlations, conclude that peer assessment can be a relevant substitute for assessments by professionals (AlFallay, 2004; Campbell et al., 2001; Hughes & Large, 1993; Oldfield & Macalpine, 1995; Patri, 2002). Nevertheless, Hughes and Large (1993) warn

that a high correlation between marks of peers and professionals can still hide a considerable variation in the marks given by students and professionals. Freeman (1995) reports e.g., only moderate correlations between peer and professional scores. He also reports that the standard deviation for peers was half that of the professionals (see also Hughes & Large, 1993). Cheng and Warren (2005) add to this that student mean markings are within one standard deviation of teacher markings, but they point out that students did not assess the same elements as their teachers did. Hafner and Hafner (2003) adopted regression analysis showing a significant positive functional relationship between instructor and mean peer scores, and add that students come to a strong agreement in the final ranking.

In the literature, fewer studies are found that compare professional assessment with self –assessment of oral presentation skills. It is clear that results are not univocal. Some of these studies report lower correlations between self- and professional assessments than between professional and peer assessment (Campbell et al, 2001; Patri, 2002). Nevertheless, other authors consider self-assessments to be as valid as peer assessment (AlFallay, 2004; Hafner & Hafner, 2003).

The latter study adopted a generalizability analysis to study inter-rater reliability. Generalizability analysis allows disentangling measurement error into multiple error sources; in contrast to classical test theory that decomposes an observed score into a true score and error (Brennan, 2000). The results of a generalizability analysis in the study of Hafner and Hafner (2003) helped to conclude that approximately one-quarter of the total variance is due to the actual differences in oral presentations, another one-quarter is accounted for by differences between raters and approximately one-half of the total variance is residual error. In addition, generalizability analysis makes it possible to determine the number of peer raters needed to obtain reliable scores. In their study, Hafner and Hafner (2003) found a sufficient generalizability (0.80) when 10 peers rated the presentation. A strong increase in generalizability score was observed when moving from a single rater to five raters. Wood, Marks, & Jarbour (2005) needed 8 peers for a reliability of .80.

#### *Variables affecting the quality of self- and peer assessments*

In the context of peer assessment, authors discuss especially rating errors and the importance of student perceptions. Rating errors are central in the study of Sluijsmans, Moerkerke, van Merriënboer, and Dochy (2001) who refer to personal differences in standards and rating styles, and the extent to which peers distribute grades and have different opinions about the

rating tasks. Student perceptions are also stated to have a considerable influence on student learning (Struyven, Dochy, & Janssens, 2003). Concerns have been raised about resulting difficulties in peer assessment contexts by Hanrahan and Isaacs (2001). Their analysis revealed eight general dimensions and twenty higher order themes, exemplified below. Results showed e.g., that students were concerned about their inexperience with marking, that they felt uncomfortable critiquing others' work and remarked that the process was not taken seriously because it doesn't count for marks. Students also complained about the time-consuming nature of the activity and asked feedback as to their involvement in the assessment (Hanrahan & Isaacs, 2001).

As to self-assessment, a meta-analysis of Falchikov (2005) indicates that some – but not all - students are able to assess in similar ways as compared to teachers. This is confirmed in e.g., the study of Kruger and Dunning (1999) where novices and low performers overestimate their performance level and even lack related metacognitive abilities (monitoring, evaluation). Rust et al. (2003) come to the conclusion that women are more likely to underestimate their performance, whereas males tend to overestimate the quality of their performance in a self-assessment context.

But let us take a closer look at the literature about assessment of oral presentation skills. Langan et al. (2005) point at obvious problems with anonymity when building on peer assessment of oral presentations. Lack of anonymity may lead to assessment bias. They also detected gender effects and found that peers rated students from the same university slightly higher than students from other universities. Falchikov (2005, p.154) cites a study of Lapham and Webster who reported collaboration over marks and mark fixing in the assessment by peers of seminar presentations. However, Sellnow and Treinen (2004) report that neither the gender of the presenter, nor the gender of the assessor, did affect overall peer ratings.

Only a small amount of studies explore the views students hold about peer assessments of oral presentation skills. The findings of Cheng and Warren (2005) showed that students reflected a low level of comfort in a peer assessment situation, and a low degree of confidence in their personal peer assessment skills. This suggests that low self-efficacy levels for peer assessment skills can affect the nature and quality of that peer assessment

To improve the quality of self- and peer assessments of oral presentation skills, evidence from the research literature is not univocal. Research focused on the value of training in assessment, initial discussions (about the assessment criteria or about the fact that students can perform assessments), and the length of the scoring criteria list.



Hafner and Hafner (2003) state that instruction and training is not sufficient. In contrast, Carlson and Smith-Howell (1995) hardly found differences in assessment practices between untrained and trained professionals. Others conclude that peers need training in view of peer assessment (AlFallay, 2004; Campbell et al., 2001; Freeman, 1995; Patri, 2002; Sluijsmans, 2002).

Langan et al. (2005) found that marks awarded by students who participated in preliminary discussions about the assessment criteria, were significantly lower than the marks of students who were not involved in these initial discussions. The enhancement of low self-efficacy for peer assessment was a key point of the debate with students in the case study of Fallows and Chandramohan (2001).

Miller (2003) came to the conclusion that more items in the evaluation checklist resulted in an increased variance in scores. This could diminish inter-rater reliability but provide students with more detailed and thus better feedback. In contrast, Freeman (1995) suggests to reduce the number of criteria in the checklist, but this could diminish the quality of feedback generated by the assessment. Lievens and Conway (2001) make a large-scale evaluation of multitrait-multimethod studies in assessment centres and use the cognitive load theory to explain the effectiveness of assessment instruments where the relevant behaviours are listed. These relevant behaviours could reduce the number of inferences required from the assessors because they can use the listed behaviours as retrieval cues to guide the recall of observed behaviour and assessors also don't need to categorize the behaviour (Lievens & Conway, 2001).

Concluding we can state that many questions about self- and peer assessment of oral presentation skills remain unanswered. Nevertheless if we can't reassure teachers on these matters and they feel worried about these drawbacks, than this will influence their willingness to adopt these alternative evaluation approaches (Falchikov, 2005). The problem seems to be the lack of research, and certainly the lack of (quasi-) experimental research, to fill the gap between what we know and what we claim about peer assessment as Sluijsmans (2008) recently stated.

In general, the available research on peer and self-assessment of oral presentation skills shows underexplored areas at the one hand and divergent views on the other hand. It is clear that more research is needed in this field.

### 3. Research Questions

The inconsistencies in the research findings about self- and peer assessment of oral presentation skills put forward a clear agenda for future research. In the context of the present study, we centre on the following key research questions:

- What is the level of agreement between peer assessments and professional assessments?
- What is the level of agreement between self-assessments and professional assessments?
- What are the student perceptions about peer assessment?

### 4. Research Design

#### *Participants*

The participants involved in the study were university freshman enrolled for a Business Administration introductory course about psychology (age average 18 years). 73 participants took part at the start of the study. Only 57 of them finished all phases of the study (36 male). Reasons for drop-out were not systematic and rather related to illness, incompatibility of rosters, or internships of the students. Informed consent was obtained from all participants, but they were not informed about the nature of the research questions.

#### *Research instruments*

##### *Assessment instrument for 'oral presentation performance'*

In a preliminary study – based on the analysis of oral presentation literature - a rubric was constructed consisting of nine evaluation criteria: three content-related criteria (quality of introduction, structure, and conclusion), five criteria about the nature of the delivery (eye-contact, vocal delivery, enthusiasm, interaction with the audience, and body-language), and a general quality criterion (professionalism). Assessors are asked to rate the quality of a presentation according to these criteria on a 5 point Likert scale. Descriptors and indicators are provided as a help to direct the assessment process. A factor analysis of the instrument indicated underpinned the validity and reliability of the instrument (see De Grez, Valcke, and Roozen, 2006; De Grez et al., in press).

As an example, we describe the assessment related to the criterion “quality of the introduction”. Assessors are invited to use a set of three indicators to score this criterion:

- Grasps the attention of the audience with the first sentences.
- Gives a goal or central idea of the presentation in the introduction.
- Gives an idea of the structure of the presentation in the introduction.

Building on their judgement, their score reflects the extent to which the quality of the introduction meets none, one, or more of the indicators put forward.

#### *Perception of ‘peer assessment’*

A subscale focusing on “perceptions of peer assessment” was adopted from the questionnaire developed and validated by Sluijsmans (2002). The original subscale consists of 7 items, with an alpha reliability coefficient of .74. One item was omitted from the scale, and a few words were changed in order to adapt the subscale to the specific oral presentation situation (e.g., ‘You can learn from the feedback of peers’). The scale was presented after the first and after the third oral presentation. The questionnaire can be found in appendix A of chapter 3.

#### *Professional and peer assessors*

The recorded oral presentations were assessed – on the base of the assessment rubric - by five assessors (3 female). Four of these assessors were faculty members with at least 5 years of a language teaching background who did not teach the students to be assessed. The fifth assessor was a junior-researcher. These assessors and their assessments are labelled as *professional* in this article. Next to the professional assessors, 47 students were involved as peer assessors in the study. These students were enrolled in the second year Business Administration (32 male) and participated in the study as a formal part of a course about communication skills. Both the professional and the peer assessors were unaware of the nature of the research questions. All the professional assessors received a short training (45 minutes on average) about the nature and use of the assessment rubric. Peer assessors received – as part of their formal instruction programme – an introduction to oral presentation skills and the use of the evaluation rubric.

### *Procedure*

Participants were – as a formal part of their psychology course - invited to deliver three short oral presentations about a prescribed topic. All the presentations were recorded. Due to drop-out of a number of participants for the second or third presentation, the final number of recorded recordings of oral presentations was 209 instead of 219.

After the first presentation, students participated individually in a computer-based multimedia training programme about oral presentations (see De Grez et al., submitted). After the second presentation students received feedback, based on the assessment rubric about their performance on the first presentation. For one third of the participants, this feedback was based on the self-assessment of their first presentation. The other participants received feedback either from peers or from professionals, based on the quantitative scoring of the nine assessment criteria (see below).

### *Assessors and the assessment procedure*

The evaluation of the oral presentations - both for professional and peer assessors - was based on video recordings. None of the assessors was aware whether they assessed a recording of a first, a second or a third oral presentation. Recordings were assigned at random to assessors.

Professional assessors evaluated individually the 209 recorded oral presentations. For each oral presentation, scores were determined for the 9 criteria in the rubric. Each professional assessor evaluated between 34 to 49 oral presentations.

Student peers assessed 29 presentations. Each of these 29 presentations was assessed by six different peers. This specific number is based on the work of Hafner and Hafner (2003) who reported a large improvement in generalizability from a single rater to about five raters and on the work of Dannefer et al. (2005) who concluded that six peers were needed to achieve a moderate generalizability in assessing professional competence. As a result, in total 174 peer evaluations have been carried out.

As part of the research design, one third of the participants was asked to rate their own presentation with the assessment rubric. The assessment rubric was at the base of the design of multimedia instruction package. Therefore, we can assume that these students were also well acquainted with the rubric criteria in view of the self-assessment activity.

## 5. Research Results

### *Initial analyses*

Before the research data were analysed in view of the research questions, quality control of the assessment process was carried out. This focused on uncontrolled differences in the way professional assessors applied the assessment rubric, despite the random distribution of recorded presentations to the professionals. The latter implies that no significant differences in average scores are expected. Analysis of variance was applied to test differences. Post hoc comparisons confirm that professional assessors do not differ significantly in applying the rubric criteria Introduction, Structure, and Contact with audience. But significant differences are observed in view of the other six criteria. Additional analysis reveals that - for five of the six criteria – it is consistently the same professional assessor that adopted a more lenient view as compared to the other assessors. An implication of the assessment bias - that could result from this finding - could have been that the mean evaluation scores obtained for the first, second, and third presentation are significantly different when we carry out the analysis with or without the scores of the too lenient assessor. Carrying out a general linear model analysis of the differences in evaluation scores between the first, second, and third presentation results in both cases in a comparable pattern. In both cases there is a significant progress from presentation one to presentation two and a non significant progress from presentation two to three.

To detect bias, caused by gender, an analysis of variance was carried out to compare whether the gender of the professional assessor and the gender of the assessed resulted in significantly different oral presentation skill sum scores. The results indicate that there is no significant difference between the scores of male and female presenters when assessed by a male or a female professional assessor.

### *What is the level of agreement between peer assessments and professional assessments?*

After calculating the sum score of the nine rubric criteria ( $\alpha = .85$ ), the score for each of the nine criteria and the sum score of the criteria were compared between professional- and peer assessors. Table 4.1 summarizes the analysis results.

Table 4.1

Professional assessment scores (= Prof.) versus peer assessment (= Peer) scores: descriptives, *t*-tests and correlation analysis (*n*=29)

<i>Assessment criteria</i>				
	<i>Professional mean</i>	<i>Peer mean</i>	<i>t</i>	<i>r</i>
	<i>(Standard deviation)</i>	<i>(Standard deviation)</i>		
Introduction	1.72 (0.80)	2.01 (0.55)	2.10*	.44*
Structure	2.07 (0.81)	2.41 (0.37)	2.32	.32
Conclusion	1.25 (0.44)	1.68 (0.39)	4.29**	.18
Interaction audience	2.59 (0.68)	2.89 (0.35)	2.67*	.45*
Enthusiasm	2.24 (0.64)	2.86 (0.60)	4.64**	.32
Eye contact	2.45 (0.87)	2.99 (0.57)	3.15**	.24
Vocal delivery	2.90 (0.67)	3.25 (0.44)	3.00**	.39*
Body language	1.79 (0.86)	2.37 (0.52)	3.26**	.10
Professionalism	2.10 (0.56)	2.61 (0.39)	5.56**	.52**
Sum score	2.14 (0.37)	2.57 (0.32)	6.21**	.45*

\*  $p < .05$ , \*\*  $p < .01$

The analysis results indicate that a positive– but not consistently significant - correlation can be observed between professional and peer assessment scores. The rubric sum score of professional assessments is significantly lower than peer assessments ( $t=6.21$ ;  $p < .01$ ). Also, for eight rubric criteria we can observe significantly lower scores from the professional assessors.

Above, analysis results were discussed about the quality of the professional assessors. Below, we report the results of an analysis focusing on the inter-peer agreement on the basis of a generalizability analysis. A two-facet generalizability study was carried out by adopting the analysis procedure of Mushquash and O'Connor (2006). The generalizability coefficient indicates the reliability pending the number of peer assessment scores and the amount of criteria used in the rubric. As not all the peers assessed all the oral presentations, the data are nested. The analysis of the variance components – as summarized in table 4.2 - shows that the variance in scores related to the oral presentations is low (9,7 % of the total variance). The variance component for peers (21% of total variance) is large and the component for peers by

criteria (7% of total variance) and peers by participants (3% of total variance) are moderate to small. Finally there is a zero variance component for the rubric criteria and a large residual variance (58,8% of the total variance).

Table 4.2  
Estimation of variance components

	<i>df</i>	<i>SS<sup>a</sup></i>	<i>MS<sup>b</sup></i>	<i>Variance</i>	<i>%</i>
<i>Source of variance</i>					
Oral presentation scores	28	148,99	5,32	0,85	9,7
Peers	5	254,81	50,96	0,185	21,1
Peers x Criteria	48	115,20	2,40	0,065	7,4
Peers/participants	140	105,10	0,75	0,026	3,0
Residu	1344	693,02	0,52	0,516	58,8

<sup>a</sup> *SS* = Sum of Squares; <sup>b</sup> *MS* = Mean Square

In Table 4.3 estimation is given of the generalizability coefficients. The generalizability coefficient for the nine criteria and the six peers, points at a good reliability. The relative *G*-coefficient is equal to .85. this is higher than the  $G > .80$  criterion for reliability (Mushquash & O'Connor, 2006). This cut off criterion is already reached when nine rubric criteria are applied by four different peers ( $G = .80$ ). Alternatively, when six peers are involved, we are allowed to reduce the rubric to six criteria ( $G = .81$ ).

Table 4.3

Estimation of the generalizability coefficients ( $G$ ), based on the number of peers and amount of criteria

Number of peers	1	2	3	4	5	6
Criteria						
1	.13	.23	.31	.38	.43	.48
2	.23	.37	.47	.54	.59	.64
3	.29	.46	.56	.63	.68	.71
4	.35	.52	.62	.68	.73	.76
5	.39	.56	.66	.72	.76	.79
6	.43	.60	.69	.75	.79	.81
7	.45	.62	.71	.77	.80	.83
8	.48	.65	.73	.78	.82	.84
9	.50	.67	.75	.80	.83	.85

To detect possible gender effects, a two-way *ANOVA* was carried out with gender of the assessor and the gender of the assessed student as independent variables and the oral presentation skills sum score as the dependent variable. This was done separately for professional and for peer assessors. Results indicate that gender of the professional assessors ( $F(1,205)= .03, p=.87$ ) and of the peer assessors ( $F(1,170)= .85, p=.36$ ) did not have a significant impact. The interaction effect gender of the assessor and gender of the assessed was not significant for professional assessors ( $F(1,205)= .291, p=.09$ ) but was significant for peers ( $F(1,170)= .4.17, p=.04$ ). Male peers give female presenters significantly higher scores than male presenters, but female peers do not make such a difference.

*What is the level of agreement between self-assessments and professional assessments?*

In view of this research question, the scoring results are compared of professional assessors and the self-assessment by students. Table 4.4 summarizes the analysis results. Overall, we find a positive – but not consistently significant - correlation between professional and self-assessment scores.



Table 4.4

Professional assessment (Prof.) versus self-assessment (Self):  
descriptives, *t*-tests and correlation analysis (*n*=79)

<i>Assessment criteria</i>				
	<i>Professional mean</i> ( <i>standard deviation</i> )	<i>Self mean</i> ( <i>standard deviation</i> )	<i>t</i>	<i>r</i>
Introduction	2.30 (0.69)	2.71 (0.92)	4.67**	.56**
Structure	2.57 (0.94)	2.99 (0.96)	3.55**	.40**
Conclusion	1.91 (0.74)	2.21(0.94)	3.20**	.53**
Interaction audience	2.72 (0.76)	2.62 (0.81)	0.88	.18
Enthusiasm	2.43 (0.79)	2.66 (0.80)	2.19*	.33**
Eye contact	2.72 (0.82)	3.15 (0.91)	3.51**	.19
Vocal delivery	3.07 (0.81)	3.03 (0.72)	0.43	.38**
Body language	2.09 (0.93)	2.47 (0.78)	3.07**	.18
Professionalism	2.47 (0.67)	2.57 (0.69)	1.31	.51**
Sum score	2.46 (0.53)	2.70 (0.49)	4.13**	.53**

\*  $p < .05$ , \*\*  $p < .01$

The ‘total’ rubric score of professional assessments is significantly lower than self assessments ( $t = 4.13$ ;  $p < .01$ ). With the exception of two criteria (Interaction with the audience and Vocal delivery), the same applies to the scoring of specific rubric criteria.

The self-assessment scores of male and female participants are not significantly different ( $F(1,75) = .30$ ,  $p = .58$ ).

#### *What are the student perceptions about peer assessment?*

The average perception score for the six items in the perception scale reflects a predominantly positive opinion about peer assessment. Comparison of first ( $M = 3.67$  and second administration ( $M = 4.11$ ) of the scale points at a significant increase in this positive approach of peer assessment ( $t = 4.11$ ;  $p < .001$ ).

## **6. Discussion and conclusions**

In the present study, alternative assessment approaches were studied. In this context, self- and peer assessment were positioned within a social cognitive perspective on self regulated learning. The limited -and often contradictory- available empirical evidence about self- and

peer assessment of oral presentation skills in learning prompted the design of a study in which the psychometric quality of self- and peer assessment was contrasted to the assessment by professionals.

Comparison of the professional and peer assessment rubric scores points at a positive relationship, but also at critical differences. The positive and significant correlation of .45 is comparable to indices found by Cheng and Warren (2005) and by Patri (2002), but lower than the .83 correlation values reported by Hughes and Large (1993). The rather low correlation in the present study might suggest that peers and professionals interpreted the criteria and indicators of the rubric in a different way. This can be explained by differences in the wide and depth of their respective experiential base. Also, within the group of peers not all peers could have applied the same criteria in a comparable and/or consistent way. The inconsistency is suggested by the large proportion of the variance that is related to peers in the generalizability analysis results, and the small proportion of the total variance to be attributed to the quality of the oral presentations. But, this suggestion is in conflict with the observation of a zero variance component for the assessment criteria in the rubric. This points at a strong internal consistency. The large residual variance, found in the present study, is comparable to the results reported by Hafner and Hafner (2005). Our results suggest that the combined scores of four peers can partly compensate for the differences. It is important to note that “four peer assessors” is a significant reduction in the number of assessors required to attain the *G* criterion for reliability. Alternatively, the analysis results also suggest that we can reduce the number of evaluation criteria in the rubric. This is however not an option, because we want – as explained in our theoretical base - to provide learners with as much feedback as possible. Lastly, the finding that peers produce higher marks as compared to professional assessors, is in agreement with other studies (e.g., Langan et al., 2005).

With regard to the comparison of self-assessment scores and professional assessment scores, we can again conclude that there is a level of agreement and disagreement when assessing the oral presentations. Nevertheless, the high and significant correlation between both assessment scores ( $r = .53$ ), is higher than values reported in other studies (e.g., AlFallay, 2004). Also the finding that the self-assessment scores are – nearly always - higher marks than professional marks, is confirmed by other studies (e.g., Patri, 2002).

As explained above, these nearly consistent differences can be explained by the more detailed and broader experience of professionals with oral presentations. They can retrieve from their memory a larger set of models that exemplify how oral presentation do or do not

meet the criteria. Price and O'Donovan (2006) mention tacit knowledge that is experience-based and can only be made explicit through the sharing of experiences.

With regard to the research question focusing on student perceptions of peer assessment, it can be stated that the results reflect a very positive attitude towards the value of peer assessment. In addition, having experienced self- and or peer-assessment affects this perception again in a positive way. This positive perception towards peer assessment of oral presentation skills is a promising finding in the light of the impact of perceptions on student learning (Struyven et al., 2003).

The present study has the merit of paying attention to the inter-rater reliability of the professional assessors. As explained above, one of the assessors applied a number of the criteria in a more lenient way. Statistical solutions were found to tackle this problem in the present study. Nevertheless, in a normal instructional setting, teachers have to be aware of the bias caused by assessors approaching the criteria in diverse ways. This should also be considered when setting up assessment related research (Topping, 2003).

Gender was also studied as a potential source of bias. Gender of the assessor nor the student being assessed seems to influence the assessment process or assessment marks. This is in concordance with the findings of Sellnow and Treinen (2004), but different from what was reported by others (Edens, Rink, & Smilde, 2000; Langan et al., 2005). Analysis of the inter-rater reliability also reveals that specific assessment criteria pose hardly a problem, whereas other criteria more easily lead to disagreement between types of assessors.

These findings suggest that the training of assessors should take this into account, and more examples and or more concrete indicators should be provided to them, and this is consistent with the point of view of several authors (e.g., Sluijsmans, 2002).

Though a more in-depth analysis of the inter-rater reliability of professional, peer, and self-assessment is beyond the scope of the present study, we have to keep in mind that the requirement to guarantee a high level of reliability is not always met (see also e.g., Price & O'Donovan, 2006; Topping, 2003). The results do not suggest that we should stop applying self- and peer assessment of oral presentation skills. Also Langan et al. (2005) and Sluijsmans (2002) make it clear that the benefits of peer-assessment outweigh a certain degree of discrepancy between e.g., student marks, tutor marks, and peer markings. Boud (2007) refers in this context to the "consequential" validity of assessment. The value of self- and peer assessment is also to be found in the impact on the acquisition process of the complex oral presentation skills. Some authors, such as Winne (2004), stress the importance of the accuracy

of feedback in view of future learning outcomes. But other authors, such as Gibbs (2006) and Yorke (2003), state that not the quality of the feedback evolving from the assessment is crucial, but the actual engagement of the student in a feedback generating process. In our opinion, we have to combine the views of the different authors. On the one hand, we do not want students to take the wrong actions based on low quality feedback. On the other hand we also don't want to block the future behaviour that should evolve from feedback. The question is therefore especially how to improve the quality of self and peer assessment approaches. Falchikov (2005) recommends developing evaluation criteria in collaboration with students. Price and O'Donovan (2006) warn that it is insufficient to concentrate on more detailed indicators for assessment criteria or standards because these indicators can become counterproductive if they are too comprehensive. These authors rather stress the importance of giving students sufficient practice and discussion to develop a shared understanding of the explicit and tacit assessment criteria. Part of the less positive results of the present study can be explained on the base of the latter. The students did not get sufficient opportunities to practice with the assessment criteria. This conclusion also challenges the statements of Hafner and Hafner (2003) and Carlson and Smith-Howell (1995) that assessment training is not that essential.

Although a large amount of recorded oral presentation sessions were assessed by peers, professional assessors, and students themselves, the study remains limited when it comes to sample size, duration of the instructional intervention, scope of the skills to be mastered, the complexity level of the competencies, etc. These limitations are important when we consider e.g., the findings of Gao and Brennan (2001) that estimated variance components can vary from one generalizability study to another, depending on the sample sizes.

Our study revealed some interesting results about an – until now - under-explored instruction and assessment field. Additional research could focus on the impact of assessment training, student collaboration in relation to defining assessment criteria etc. Future studies should also consider the nature of the target audience that could vary in knowledge domains and expertise levels. Further research should investigate the short term, middle term and long term effects. In this context, the relationship between self- and peer assessment and our theoretical framework about self regulated learning will become more obvious.

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## Chapter 5\*

# The differential impact of observational learning and practice-based learning on the development of oral presentation skills in higher education

### Abstract

The present study focuses on the design and evaluation of an innovative instructional approach to develop oral presentation skills. The intervention builds on the observational learning theoretical perspective. This perspective is compared to a less guided research condition that builds on extended practice. The results suggest a significant impact on the progress in oral presentation skills. But a significant impact of the observational learning approach is only observed in relation to content related evaluation criteria, and not in relation to delivery criteria. Results also suggest that students are highly motivated to learn this type of skills. Specific student characteristics did not play a mediating role.

### 1. Introduction

Oral presentation skills are considered to be critical professional competences. As a result they are central in many higher education curricula (Dunbar, Brooks, & Kubicka-Miller, 2006). In contrast, oral presentation skills are hardly the object of empirical research. The available oral presentation research especially focuses on the assessment of these skills (see e.g., Wood, Marks, & Jabbour, 2005). As a result, available publications and current practices about how to teach oral presentation skills are hardly evidence-based (e.g., Baker, &

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Thompson, 2004). They mostly build on basic introductions and giving students opportunities to practice (e.g., Grace & Gilsdorf, 2004).

In the current article, we build on the results of a series of design-based research studies about the development and evaluation of oral presentation skills. Results of a first study (De Grez, Valcke, & Roozen, in press) pointed at the critical position of motivational constructs, such as self-efficacy, attribution, and goal orientation in developing oral presentation skills. The study especially pointed at the significant and positive impact of self-generated focused learning goals as compared to general goals of learners (De Grez et al., in press). These findings influenced the design and development of a goal-directed standardised multimedia instruction approach in a second study. The results of the latter study show that this standardised multimedia approach result in a significant learning gain. But, questions were raised as to the potential impact of opportunity to practice the presentation skills (De Grez, Valcke, & Roozen, submitted). The second study also investigated the role of the peers as assessor of the oral presentations. The results indicate that a criterion-based assessment by four peers results in scores with a good inter-rater reliability.

In the present and third study, we build on the results of the second study and centre on the manipulation of “practice” opportunities of learners.

## **2. Theoretical framework**

In the present study, teaching and learning oral presentation skills is approached from the social cognitive perspective on self-regulated learning (Schunk & Zimmerman, 1997; Zimmerman, 2001) and builds strongly on the social learning theory of Bandura (1986). This theoretical approach is commonly adopted in competency training settings. According to Taylor, Russ-Eft, & Chan (2005) this perspective “...has become one of the most widely used, well-researched, and highly regarded psychologically based training interventions approach...” The theoretical framework will guide the definition of the research questions in the next section.

Bandura (2005) states that the learning process starts with social modelling experiences and develops via emulation to a self-controlled level (Zimmerman, 2000). This process implies that the first level is an observational level during which learners watch a model performing the skill to be acquired. When learners try – with assistance- to adopt the model behaviour, they move to the emulation level. At the third level - the self-controlled

level - learners practice the behaviour independently of the model, but still in a structured setting. The self-regulated level is the fourth level where learners are able to adapt their performance to changing conditions.

Zimmerman (2000) exemplifies this learning process with a study of Kitsantas about the acquisition of dart throwing skills. Learners in the modelling condition outperformed those that merely developed their skill on the base of extended practice.

Other studies come to comparable results, but in other knowledge domains: e.g., mathematics (Schunk & Hanson, 1985), writing and reading (Couzijn, 1999) and in the domain of argumentative writing (Braaksma, Rijlaarsdam, & Van den Bergh, 2002). No studies could be traced that focused on the domain of learning oral presentation skills.

In the cited studies, observational learners outperformed those that learned by practicing. This does not imply that participants from the latter group did not learn. Braaksma et al (2002) observed in this context the mediating impact of aptitude and prior knowledge. Medium level and good students progressed in both conditions (observational learning versus learning by practicing) but weak students profited more from observational learning (Braaksma et al., 2002). Students in the latter situation still needed to develop adequate initial cognitive representations. The modelling approach seems to be adequate in this context since it acts as a guide to perform complex behaviour (Bandura, 2005). The cognitive representation also serves as a standard for future corrective adjustments (Bandura, 2005) but this requires that learners can observe their own behaviour and interpret it correctly (Bandura, 1986). This introduces the three key sub-processes distinguished in self-regulated learning: self-observation, self-judgment, and self-reaction (Schunk, 2001). Self-observation can be regarded as the first step in a learning process and it has next to an informational, also a motivational function (Bandura, 1986; Schunk, 2001). The information helps to set realistic performance standards and motivates learners to evolve depending on their outcome and efficacy expectations (Schunk, 2001). The basis for change in their behaviour ("better" performance) lies in the self-judgment process during which information gathered via self-observation is compared to the performance goal. If the learners attribute failure/success to an internal cause they can influence successfully, and it is worthwhile, than the learner will start a self-reaction process that brings the behaviour more in line with the performance standard. Motivation will depend on the anticipation of success or failure of the adapted behaviour (Schunk, 2001).

The former set of theoretical assumptions help to explain the significant results found in our earlier studies. The differential impact of specific goal orientation influences the self-

observation and self-judgment processes. The standardised multimedia instructional, in combination with internal or external feedback clearly influenced the self-observation, and the self-judgment processes. And the (limited) attention paid to practice, could have influenced the self-reaction processes, though this impact was less conclusive.

Bandura (1986) makes a clear distinction between “acquisition” and “performance” because learners do not always demonstrate what they learned. This is especially the case when what is learned has little functional value, when weak performance will result in negative reinforcement (Schunk, 2001). Modelling is again helpful in this context, since observing a model performing the expected behaviour without observing negative consequences, will influence the probability that this behaviour will be executed.

Personal characteristics, such as self-efficacy, perceptions of the learning environment, goal orientation, and attributions, are additional variables that play a role from the social learning perspective. Empirical studies underpin this (see e.g., De Grez, Valcke, & Roozen, 2006; De Grez et al, submitted; Lowyck, Elen, & Lehtinen, 2004). An interaction effect between characteristics of the participants and characteristics of the instructional setting is also mentioned by e.g., Braaksma et al. (2002).

When turning to the context of higher education curricula that focus on oral presentation skills, we first have to verify if the theoretical framework described above can be successfully applied to the learning of oral presentation skills. If the latter is the case, the assumption can be made that these students have already observed many oral presentations, and therefore can be situated at level three or four in their development of these particular skills. On the base of what they did observe and personally deliver, it can be hypothesized that they can mobilise basic cognitive representations that guide their attempts to give a presentation about a prescribed topic without help from the faculty. If the latter hypothesis is confirmed, this implies that learners experience a sufficient level of observational learning and that now they especially need opportunities for practice. These assumptions about the self-monitoring capacities of these students elicit a number of questions. Can we, for instance, be so confident about the nature and quality of available cognitive representation about “good” or “effective” oral presentations? Did learners receive adequate corrective feedback after their oral presentation attempts in view of adjustment of their strategies? Are they sufficiently aware of the standards and the expected performance level? If this last question is to be answered in a negative way, this will introduce the need for additional observational learning to acquire the standards before turning to practice. An additional question looks at student characteristics that will mediate the impact of instruction. Are the students e.g.,

sufficiently motivated to bridge the gap between the standards and their personal performance level? How is their self-efficacy as to giving oral presentations? Do they attach a high value to this task? Are students still inhibited to give oral presentations? This long list of questions is especially valid when students haven't been involved in a systematic and performance oriented learning process that reflects the sub-processes that result in self-regulated learning (see Schunk, 2001): self-observation, self-judgment, and self-reaction.

### **3. Research hypotheses**

On the base of the theoretical framework and the results of earlier studies, we put forward the following research questions:

- Will oral presentation skill performance improve due to a combination of observational learning and individual practice?
- Is the progress in oral presentation skills larger due to observational learning as compared to only getting practice opportunities?
- What are the interaction effects between student characteristics (goal orientation, personal performance estimation, perception of instruction and learning) and instructional interventions on oral presentation performance?

### **4. Research Design**

In view of testing the research hypotheses, a pretest-posttest cross-over design was set up. Instead of defining a traditional control condition a cross-over design has been adopted to establish a control condition during a first and a second phase of the research set up.

#### *Participants*

The participants were university freshman (32 female and 6 male) enrolled for a Business Administration introductory course about psychology, including a section about communication and presentation skills ( $n=15$ ) and second year students from the linguistics and literature department ( $n=23$ ) enrolled for a course about communication and presentation skills.

Before their involvement in the present study, participants never enrolled for a course focusing on the training and development of oral presentation skills. Nevertheless, in other courses, some of them had been invited to deliver short oral presentations; e.g., in the context of their foreign language courses. But this was not based on a systematic instructional intervention, neither were the presentation goals geared towards assessment of their presentation skills.

### *Research instruments*

Participants were invited to fill out a set of research instruments at the start and at the end of the research procedure. These instruments focused on the participants' beliefs about learning, their self-efficacy, and their perception of the instructional format.

#### *Questionnaire 1: Personal characteristics*

*Goal orientation measure: PALS.* The revised version of the Patterns of Adaptive Learning Survey (Midgley et al., 2000) consists of three 5 or 4 item subscales that represent three goal orientations (task goal, performance approach, and performance avoidance). The revised version of the PALS was translated into Dutch following the 'parallel blind technique' (Behling & Law, 2000). The translated questionnaire can be found in appendix A.

*Personal performance estimation.* We asked the participants to evaluate and score their personal oral presentation on the base of a rubric. This rubric was developed during a pilot study, and builds on nine criteria: three content-related criteria (introduction, structure, and conclusion), five criteria focusing on the presentation delivery (eye-contact, vocal delivery, enthusiasm, interaction with the audience, and body-language), and one overall evaluation item (professionalism). Respondents were asked to rate their presentation along a 5 point Likert scale. Descriptors were made available to document the five performance levels.

*Perception of 'peer assessment'.* In the former study (De Grez et al., submitted), some students expressed concerns about the fact that their oral presentations were also assessed and scored by peers. To measure student perception of peer assessment, the instrument that was constructed and validated by Sluijsmans (2002) has been adopted in this study. The original subscale consisted of 7 items, with an alpha reliability coefficient of .74. One item was

omitted and a few words were changed to adapt the subscale to the specific oral presentation situation. The questionnaire can be found in appendix A of chapter 3.

### *Questionnaire 2: The learning process*

In this second questionnaire, respondents were asked to reflect on their learning process. Items were presented to be rated on a five-point Likert scale. Items deal with:

(1) The characteristics of the learning process (How much time did you spend preparing the presentation? How much did you like the following (seven) instructional elements (ten-point Likert scale)? How much did you learn from the following (seven) instructional elements (ten-point Likert scale)?

(2) Perceptions of peer assessment: this implied the reuse of the subscale of the first questionnaire.

(3) Perceptions regarding their learning progress (e.g., Are you happy with the progress you made? Did the instruction result in the acquisition of knowledge, skills, self-confidence (seven-point Likert scale)? Two internal and three external attributions (seven-point Likert scale).

## **5. Research procedure**

Table 5.1 gives a structured overview of the steps followed in the research procedure. Participants were assigned randomly to a research condition. These conditions only differ in the timing of the standardised multimedia instruction. In both conditions, all oral presentations were videotaped.

Table 5.1  
 Overview of the research procedure

	Condition 1: observational learning first	Condition 2: learning from practice first
Step 1	Administration questionnaire 1	Administration questionnaire 1
Step 2	Oral presentation 1	Oral presentation 1
Step 3	Standardised multimedia instruction	
Step 4	Oral presentation 2	Oral presentation 2
Step 5		Standardised multimedia instruction
Step 6	Oral presentation 3	Oral presentation 3
Step 7	Administration questionnaire 2	Administration questionnaire 2

The three oral presentations were evaluated and scored by peers. Only the data from participants whose three presentations were assessed by a minimum of four peers are included in this study. This specific number is based on the results of previous research (De Grez et al., submitted) in which was found that four peer judgments result in sufficiently reliable scores. Peers only assessed oral presentations from students they were not acquainted with (e.g., students studying French and Italian assessed presentations of respondents studying Spanish and English). In addition, peers did never assess more than one presentation of one and the same student.

#### *Observational learning through the standardised multimedia instruction*

In order to support observational learning, short video clips were presented that illustrate behaviour in relation to the nine rubric criteria discussed above. The collection of video clips is incorporated into a computer-based multimedia instructional package about the do's and don'ts of an oral presentation. Figure 5.1 presents two screenshots from the multimedia package.



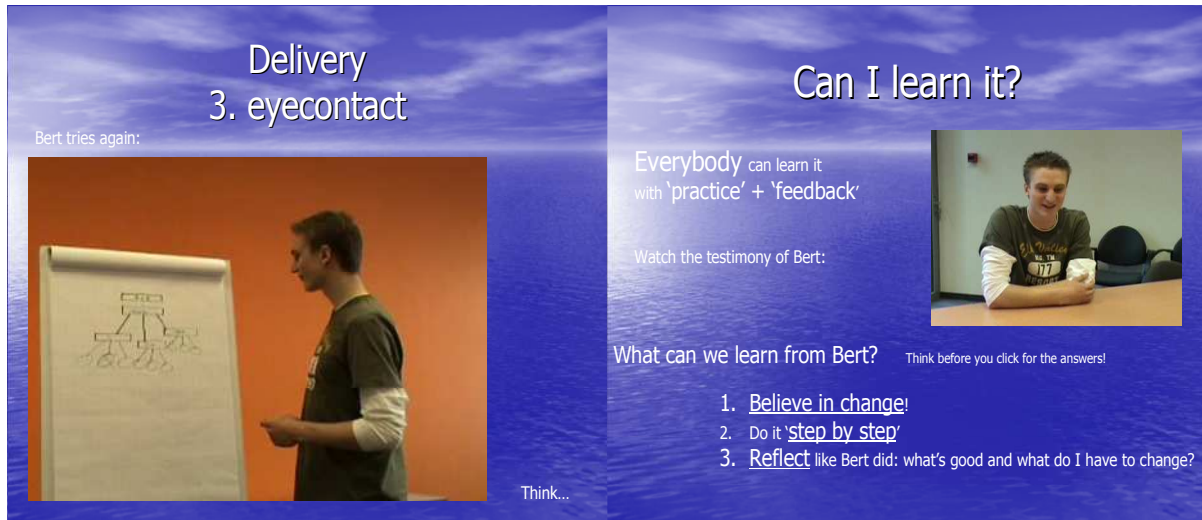


Figure 5.1. Two screen-dumps of the multimedia instructional package to support training and assessment of oral presentation skills.

In the first part of the video-based instruction, an answer is given to the question “why should I learn how to present?” The content reflects a ‘mastery goal orientation’ and a ‘performance approach goal orientation’ and builds on the testimony of a female manager. This testimony demonstrates that oral presentation skills are highly valued in professional life.

The second part builds on the testimony of a male student and focuses on learning strategies. In line with the theoretical framework (Bandura, 1997), the social model tells about the difficulties he had in dealing with “the presentation assignment” and how he reflected on his learning strategy, changed it, and was successful in the end (applause from the audience and complimented by the teacher). Tucker and McCarthy (2001) report that such a testimony can enhance self-efficacy and this can be a motivational construct that predicts the presentation performance (De Grez et al., 2006). The model also stressed the importance of self chosen, proximal, and attainable goals (Schunk, 2001). He also attributed success to practicing. Such internal attributions have a positive impact on motivation and on performance (see e.g., Eccles & Wigfield, 2002).

In the third and main part of the multimedia instruction, the nine criteria of the assessment instrument (cfr. supra) are illustrated with 14 subsequent, but related video clips. Based on comparable studies (Baldwin, 1992; Schönrock-Adema, 2002), a mixture of social models (gender and age groups) was involved to perform the desirable behaviour (9 video clips) and undesirable behaviour (5 video clips). In order to stimulate reflection, participants are asked after each video clip to think first about what they observed and then to click for additional information about the criterion.

In the fourth and last part of the instruction, students get the opportunity to practice the application of the assessment criteria. This part reflects the third set of processes in observational learning (Bandura, 1997). Participants are invited to assess a video recording of an oral presentation, on the base of the nine criteria presented earlier.

## 6. Research Results

### *Quality screening of the research instruments*

Tests were conducted to analyse whether score distributions were normal. When score distributions were not normal (Kolmogorov-Smirnov tests) the nonparametric equivalents of *t*-test and correlations were used for these subscales. In addition reliability indices were calculated. Table 5.2 summarizes the analysis results. These reflect acceptable to good reliability indices.

Table 5.2  
Psychometric quality of scales and subscales

Subscales	$\alpha$	<i>M</i>	Standard deviation
1 PALS task goal*	.66	4.60	0.42
2. PALS performance approach	.72	2.34	0.58
3. PALS performance avoid	.70	3.22	0.81
4. Perception of peer assessment (first questionnaire)	.78	4.14	0.62
5. Perception of peer assessment (second questionnaire)	.74	4.22	0.50
6. Personal performance estimation	.84	2.81	0.52
7. Qualitative preparation	.70	2.67	0.77
8. Quantitative preparation	.89	2.27	0.73
9. Appreciation of the instructional intervention	.83	6.26	1.27
10. Learning from the instructional intervention	.83	6.60	1.26

Note: subscales 9 + 10 are ten point Likert scales.

\* with two items deleted

The key dependent variable in this study is the quality of the oral presentations. The 114 oral presentations (three for each participant) were, as described earlier, assessed by 4 peers. The mean of the peer assessment scores was calculated. A two-facet generalizability study was conducted to estimate the inter-peer agreement and the variance components underlying the measurement procedure. The generalizability study, based on the analysis procedure of Mushquash and O'Connor (2006), produced a generalizability coefficient of .89 when building the reliability index on four peers and nine assessment criteria. This is above the threshold of  $G > .80$  criterion (Mushquash & O'Connor, 2006). The analysis of the variance components – as summarized in table 5.3 - shows that the explained variance in assessment scores that depends on the nature of the oral presentations is large (22% of the total variance). The explained variance that depends on the component peers by criteria and peers by participants is around 3% and therefore small. Finally there is a zero variance component for the rubric criteria and a large residual variance (67.7%).

Table 5.3  
Estimation of variance components

<i>Source of variance</i>	<i>Df</i>	<i>SS*</i>	<i>MS**</i>	<i>Variance</i>	<i>%</i>
Oral presentation scores	113	818.20	7.24	.18	22%
Peers	3	90.77	30.26	.03	3.1%
Peers x Criteria	32	125.53	3.92	.03	3.6%
Peers/participants	339	271.89	.80	.03	3.5%
Residu	3616	1986.03	.55	.55	67.7%

\* *SS* = Sum of Squares; \*\**MS* = Mean Square.

Three different sum scores were developed from the rubric assessment scores: a total sum based on the nine rubric criteria ( $\alpha = .83$ ), a sum score based on the three content-related criteria ( $\alpha = .62$ ) and a sum score based on the five delivery-related criteria ( $\alpha = .77$ ).

*The impact of observational learning and individual practice on oral presentation performance*

A repeated-measures analysis of variance with Greenhouse-Geiser correction was carried out to assess the within-subjects main effect of observational learning and practice on the quality of the three successive oral presentations. Results point at a significant increase in overall (sum of the nine criteria) performance ( $F(1.88, 67.85) = 36.09, p < .001, \eta^2 = .50$ ), in relation to the presentation content quality ( $F(1.91, 68.70) = 25.62, p < .001, \eta^2 = .42$ ), and in relation to the presentation delivery quality ( $F(1.82, 65.56) = 16.23, p < .001, \eta^2 = .31$ ).

Table 5.4 summarizes the results of t-tests and the Wilcoxon signed ranks tests that clarify the progress between the three oral presentations. Results reveal that performance increased significantly for seven out of nine oral-performance scores between the first and third oral presentation. In terms of effect size, the growth is very large for the subscale Conclusion ( $t = 5.64, p < .001, d = 1.22$ ) and Interaction with audience ( $t = 6.99, p < .001, d = .92$ ). The growth is rather small for Eye contact ( $t = .45, p = .66, d = 0.07$ ) and Vocal delivery ( $t = 1.88, p = .07, d = 0.34$ ). The overall picture of the progress made between presentation one and two is very similar to that of the progress made between presentation one and three, but the effect sizes are smaller for most of the criteria. The progress between presentation two and three is rather restricted, except for the subscale Conclusion ( $t = 3.19, p < .001, d = 0.60$ ).

Table 5.4

Scores ( $N=38$ ) on the three oral presentations (=pres)

Mean, t-tests / Wilcoxon signed ranks tests, effect size

assessment criteria	Mean pres. 1	Mean pres. 2	Mean pres. 3	$t/Z$ pres. 1- 3	$d$	$t/Z$ pres. 1- 2	$d$	$t/Z$ pres. 2- 3	$d$
Introduction	2.72	3.02	3.13	4.77**	0.75	<u>3.18**</u>		<u>1.01</u>	
Structure	2.92	3.10	3.32	<u>3.88**</u>		2.14*	0.37	<u>2.16*</u>	
Conclusion	2.26	2.58	2.93	5.64**	1.22	3.22**	0.57	3.19**	0.60
Interaction audience	2.74	3.17	3.22	6.99**	0.92	7.36**	0.90	0.63	0.10
Enthusiasm	2.72	3.05	3.11	4.52**	0.58	4.41**	0.52	0.83	0.09
Eye-contact	3.36	3.51	3.41	0.45	0.07	1.48	0.20	1.06	-0.16
Vocal delivery	3.20	3.30	3.37	<u>2.14*</u>		1.57	0.19	<u>1.05</u>	
Body language	2.91	3.25	3.24	3.04*	0.55	3.94**	0.62	0.09	-0.02
Professionalism	2.85	3.07	3.28	<u>4.59**</u>		3.27**	0.45	<u>3.38**</u>	
Sum score content	2.63	2.91	3.13	7.23**	1.12	4.30**	0.68	2.95**	0.49
Sum score delivery	2.99	3.25	3.27	4.57**	0.57	5.60**	0.54	0.34	0.04
Sum score of 9 criteria	2.85	3.12	3.23	7.57**	0.87	6.22**	0.64	2.69*	0.26

Note: underlined results reflect Wilcoxon signed ranks tests results

\*  $p < .05$ , \*\*  $p < .01$ 

*Is the progress in oral presentation skills larger due to observational learning as compared to only getting practice opportunities?*

Results of the repeated-measures analysis of variance (Greenhouse-Geiser correction) with the two research conditions as the between subject factor, indicate that there is no overall significant differential effect ( $F(1.88, 67.85) = 0.41, p = .65$ ). The progress made between presentation one and three is about 13% for participants in both conditions. This implies that the overall progress achieved by participants that start with observational learning before getting opportunities to practice, is not significantly different from the progress made by participants that first started practicing before observational learning.

But, we note a significant difference at the level of content related criteria. Participants starting with observational learning reflect a large progress in content related criteria between presentation one and two (13.79%) but made only a small progress between presentation two

and three (4.27%). Participants starting with practicing made only a small progress between presentation one and two (5.87%) but progressed strongly between presentation two and three after observational learning (12.37%).

Further analysis of the impact on the three specific content related criteria reveals a significant interaction effect on the “quality of the conclusion” in both experimental conditions ( $F(1.81, 64.99) = 3.87, p = .03, \eta^2 = .10$ ). The results of a split file analysis based on the two experimental conditions show that the group receiving observational learning first, progressed significantly between presentation one and two ( $F(1, 20) = 21.05, p < .001, \eta^2 = .51$ ) and in a non-significant way between presentation two and three ( $F(1, 20) = 1.35, p = .26, \eta^2 = .06$ ). In contrast, participants in the “practice first” condition mirror an insignificant progress between presentation one and two ( $F(1, 16) = .001, p = .98, \eta^2 = .00$ ), but a significant progress between presentation two and three ( $F(1, 16) = 14.00, p = .002, \eta^2 = .47$ ).

#### *Student characteristics*

Participants report a strong task goal orientation ( $M = 4.60$ ) and are moderately motivated to learn oral presentation skills ( $M = 3.56$ ). They report a clear gain in knowledge acquisition ( $M = 5.54$ ), progress in oral presentation skills ( $M = 5.44$ ), and an increase in self-confidence ( $M = 5.18$ ). When asked what instructional elements influenced their oral presentation performance, they put “preparation” first ( $M = 6.47$ ), the “nature of the topic” second ( $M = 5.34$ ), and their “ability” third ( $M = 4.89$ ). They also hold a very positive view about peer assessment ( $M = 4.22$ ).

There is a significant correlation between observed progress in oral presentation skills and the increase in self-confidence ( $r_s = .41, p = .01$ ). There is also a significant correlation between the motivation to learn oral presentation skills and the appreciation of the key instructional elements ( $r_s = .38, p = .03$ ).

Correlations between the other variables and processes are not significant: gain in knowledge acquisition and increase in self-confidence ( $r_s = .09, p = .62$ ); gain in knowledge acquisition and increase in oral presentation skills ( $r_s = .16, p = .36$ ); increase in oral presentation skills and time spend on preparation of the presentation ( $r_s = -.32, p = .08$ ), perceived progress in presentation skills and the progress (assessed by peers) between presentation one and three ( $r_s = .07, p = .67$ ).

No significant interaction effects are observed between learner characteristics and studying in the two experimental conditions on oral presentation performance.

## 7. Discussion and conclusions

With regard to the first research hypothesis about the overall impact of observational learning and practice on oral presentation skills, it is clear that the quality of the third oral presentation was higher. Consequently the application of the theoretical framework, described in point 2, to the domain of the learning of oral presentation skills proved successful. The improvement was apparent in relation to all criteria, but progress was larger at content level as compared to the delivery level. It seems e.g., more difficult to influence “eye contact with the audience” as compared to influencing the “quality of the conclusion”. This is in line with previous research results (De Grez et al., submitted).

In order to study the differential impact of observational learning and practice-based learning, two experimental conditions were compared in a cross-over design. It was hypothesised that, like in several other studies in domains as e.g., writing (Braaksma et al, 2002), learners starting with observational learning would outperform learners starting with additional practice opportunities. This hypothesis was only partly confirmed, since no overall significant impact could be observed. But, participants starting with the observational learning strategy attained a higher level in relation to the oral presentation content criteria; such as “quality of the conclusion”. The cognitive perspective about self-regulated learning (e.g., Schunk & Zimmerman, 1997) offers some possible explanations for these results. One possibility is that – in general - knowledge about the quality of a conclusion was new for all participants. This implies that – despite earlier practice with oral presentations – no cognitive representations were readily available to build upon. Learners in the observational learning condition could therefore profit in an immediate way from the modelling in the standardised multimedia instruction. This facilitated learning at the observational level. The latter was not the case with learners in the practice condition. The lower impact of the multimedia instruction can also be explained in a second way. Participants did learn new aspects of good oral presentations, but had difficulties with “making the unobservable observable” (Bandura, 1986, p.66). While preparing and delivering oral presentations students have to observe themselves before they make a judgment about their performance in view of making adjustments. This cyclical process might be easier in relation to the criterion “quality of the

conclusion” as compared to e.g., “use of body language”. The quality of a conclusion can be analysed, compared with standards and adjusted during a preparation phase, but this is much more complicated for the quality of body language. It is even possible that learners adopt incorrect behaviour but assume that it is consistent with the standards and find this incorrect behaviour rewarding. Even if learners know the standards and can accurately judge their presentation performance, they will not automatically strive towards the standards. They have to be convinced that they can learn the new behaviour and need a sufficient level of self-efficacy, and attribute progress to internal and changeable causes.

Thirdly, inhibition can have played a role. Participants can be inhibited to behave in line with the criteria because of fear for the reactions of the audience. Changing the way you keep “eye contact” with the audience can be more threatening than changing the conclusion in an oral presentation. It can be concluded that delivering a good oral presentation depends on many sub skills and that it is likely that learners have attained a different level in relation to specific sub skills. Since it is necessary to adapt the instruction to the level of the learner in an observational learning process, the standardized multimedia package might have been less effective in view of influencing specific oral presentation criteria. Learners need a coping model at observational level, but a mastery model at emulation level, process goals to attain the self-control level and outcome goals in view of attaining the self-regulation level (Zimmerman & Kitsantas, 1999, 2002).

In relation to the third research hypothesis about student characteristics, we can conclude that learners are convinced that learning oral presentation skills is important and that they can learn it. This reflects promising motivation levels (Bandura, 1986). Participants are also very positive about the learning effect of peer assessments.

The participants report their perceived increase in knowledge about oral presentations, and an increase in oral presentation skills. It is strange that no correlation could be found between these perceptions, but we have to be careful when interpreting a lack of correlation because of the small number of participants involved in the study. The fact that participants feel they learned new knowledge and skills, and additionally attained a higher self-confidence level, is an important element in the motivation cycle to attain self reaction (Schunk, 2001).

The negative - but non-significant - correlation between reported preparation time and the actual progress made in oral presentation is at first sight remarkable. In this context the warning of Gibbs and Simpson (2004) has to be taken into account that “perception of effort” depends more on student motivation than on the actual number of hours spend during preparation. Wagner, Schober, and Spiel (2008) cite several authors that express their doubts



about the reliability of retrospective time assessments and advised to make use of diaries. Gibbs and Simpson (2004) also warns that that learners might use their “hours” unproductively.

It is clear that developing oral presentation skills requires a complex interplay of cognitive and motivational processes. This complex reality exceeds the design of this study that involved a limited number of participants during a limited period of time. Nevertheless some interesting results emerged that are helpful to direct future research. These studies will require the involvement of larger groups, during a longer research intervention, and with a focus on middle term and long term effects. Additionally, also the modelling approach can be refined. We can e.g., introduce corrective modelling after giving personal feedback (Bandura, 1986). These are only some of the possible research questions in a formal learning setting, but as Bransford et al. (2006) stipulated, research also has to integrate insights from informal and from implicit learning in order to create transformative theories of learning, but that is clearly a long-term goal.

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**Appendix A. Goal orientation measure: PALS.**

**The revised version of the Patterns of Adaptive Learning Survey (Midgley et al., 2000)**

Bij de volgende vragen geef je uw mening weer via een cijfer van 1 tot 5 waarbij

1 = niet akkoord

2 = voor een groot deel niet akkoord

3 = neutraal

4 = voor een groot deel akkoord

5 = helemaal akkoord

1. Ik vind het belangrijk dit jaar heel wat nieuwe dingen te leren.
2. Het is belangrijk voor mij dat mijn medestudenten denken dat ik de leerstof goed beheers.
3. Het is voor mij belangrijk in de les niet de indruk te geven 'dom' te zijn.
4. Eén van mijn doelstellingen in de les is zoveel te leren als ik kan.
5. Eén van mijn doelstellingen is mijn medestudenten te tonen dat ik goed ben in wat ik studeer.
6. Eén van mijn doelstellingen is om dit jaar heel wat nieuwe vaardigheden te verwerven.
7. Eén van mijn doelstellingen is te verhinderen dat mijn medestudenten in de les zouden denken dat ik dom ben.
8. Eén van mijn doelstellingen is mijn medestudenten te tonen dat de leerstof gemakkelijk is voor mij.
9. Het is belangrijk voor mij dat ik mijn leerstof grondig begrijp.
10. Het is voor mij belangrijk dat de docent niet denkt dat ik minder weet dan mijn medestudenten in de les.
11. Eén van mijn doelstellingen is om slim te lijken in vergelijking met mijn medestudenten in de les.
12. Het is belangrijk voor mij dat ik dit jaar mijn vaardigheden verbeter.
13. Het is belangrijk voor mij om slimmer te lijken in vergelijking met mijn medestudenten.
14. Eén van mijn doelstellingen in de les is om te vermijden dat ik de indruk geef moeilijk mee te kunnen.

## Chapter 6

### General discussion and conclusion

The research presented in this dissertation concentrated on the optimisation of a specific instructional intervention, to foster the learning of oral presentation skills. In this final chapter, we reflect at a more general level on the theoretical base, the research design, methodology, and the results of the studies presented in this dissertation.

We start this final chapter by reiterating the aforementioned central focus and related research questions pursued with this dissertation. On the base of this structure, we summarise the key research results. This is the foundation for a more general reflection upon the research findings and to introduce remarks about limitations of the studies, directions for future research, and implications of the findings.

#### 1. Overview of the research questions and the results

The general aim of this dissertation is to improve instructional interventions that foster the learning of oral presentation skills.

##### *Research questions (RQ)*

#### Chapter 2

*Preliminary question: how can we measure oral presentation skills?*

A new measurement instrument for oral presentation skills was developed and ameliorated. The instrument proved to be valid and reliable and a workable assessment instrument.

## Chapter 2

1. *Does an instructional intervention that build on providing learners with specific goals and invoking self-reflection, have a beneficial impact on the development of oral presentation skills?*
  - a. *Students in an experimental condition that fosters defining specific goals perform better as compared to students in a control condition where only a general goal has been presented by the instructor.*

This hypothesis was confirmed.

- b. *Students in an experimental condition that stimulates self-reflection perform better than students in a control condition.*

This hypothesis was not confirmed.

2. *Are goal setting, self-reflection, and specific student characteristics significant predictors of oral presentation skills?*

Performance approach goal orientation, post-test self-efficacy, subject of the last presentation, and internal attributions of learning outcome are important predictors of the presentation performance

## Chapter 3

3. *What is the impact of a standardized multimedia instructional intervention, based on the social cognitive perspective on self-directed learning, with embedded evaluation, feedback and practice on the acquisition of oral presentation skills?*

The instructional intervention does significantly enhance oral presentation skills.

4. *Is the impact from peer feedback on oral presentation performance as large as the impact of feedback from experts or from self observations?*

The research results do not underpin a significant impact of feedback mode – from a professional, from peers or self-assessment– on the enhancement of oral presentation skills.

5. *What are the interaction effects of learner characteristics and instructional formats on oral presentation performance? Is there a positive association between performance and a mastery goal orientation? Is there a negative association between performance and a performance avoidance goal orientation?*

We could only detect a single significant interaction effect of a learner characteristic and the instructional format (feedback alternatives) on oral presentation performance. This impact could be observed in relation to the subscale Task Goal orientation of the PALS. No interaction effects of goal orientation were found, considering the both subscales of the PALS.

6. *What are the students' perceptions about the characteristics and nature of the multimedia learning environment?*

Students evaluated the standardised instruction on computer and the video clips as very positive, but indicated they learned most from the feedback. Second in line, they rated the video clips to be of key importance in view of learning the oral presentation skills.

#### Chapter 4

7. *What is the level of agreement between peer assessments and professional assessments?*

There is a positive relationship between scores resulting from peers and scores resulting from a professional assessment. Professional assessment scores are consistently and significantly lower. The combined scores of four peers can partly compensate for the differences.

8. *What is the level of agreement between self-assessments and professional assessments?*

There is a positive relationship, but there are also critical differences between self-assessment scores and scores resulting from a professional assessment. Professional assessment scores are consistently and significantly lower.

9. *What are the student perceptions about peer assessment?*

Students adopt a very positive attitude towards peer assessment.

Chapter 5

10. *Will presentation skill performance improve due to a combination of observational learning and individual practice?*

Oral presentation skills increased significantly through the combination of observational learning and individual practice. This increase is related to overall presentation performance, and in relation to the quality of the presentation content and in relation to quality of the presentation delivery.

11. *Is the progress in oral presentation skills larger due to observational learning as compared to only getting practice opportunities?*

This question could only be partly answered in a positive way. Only in relation to one criterion, the participants evolved as predicted: the quality of the conclusion of the oral presentation.

12. *What are the interaction effects between student characteristics (goal orientation, personal performance estimation, perception of instruction and learning) and instructional interventions on oral presentation performance?*

No significant interaction effects have been observed between learner characteristics and studying in the two experimental conditions on oral presentation performance scores.



## ***2. General discussion***

In this section, we discuss the key results summarised above, they are interlinked, and related to our theoretical framework.

### *Overview of the literature.*

In chapter one, a general analysis about the nature of oral presentations skills was presented, based on a review of the available literature about instruction of oral presentation skills. This compilation of the literature was critical since in the available literature, no comprehensive review of the theoretical and empirical base is available. A key observation is the strong discrepancy between the importance attached to oral presentations in higher education curricula and the lack of theoretical or empirical study to ground the design and development of instructional interventions. There is clearly a lack of a comprehensive theoretical framework to describe and explain the potential impact of instructional interventions in this domain.

### *Development of a theoretical framework*

A detailed elaboration of a general theoretical framework was presented in chapter one. In this context, we adopted the social cognitive perspective upon self-regulated learning. This framework builds on cognitive as well on motivational variables and describes short-term as well as long-term features of the learning process. The figures, also presented in chapter one, build on this theoretical framework, and illustrate the iterative learning process to developing – among others – oral presentation skills. The four learning subprocesses, distinguished by the social cognitive theory (Bandura, 1986), were considered useful to direct the design and development of the instructional intervention.

### *Research instruments*

The theoretical framework stressed the importance of a number of cognitive and motivational variables, such as learning conceptions, perceptions about assessment, etc.

We adapted a number of existing instruments to be used in our specific research setting. We adapted the questionnaire of Bakx, Vermetten, & Van der Sanden (2003) and

Bakx, Van der Sanden, Sijtsma, Croon, & Vermetten (2006) about domain specific learning conceptions, and the instrument of Sluijsmans (2002) about perception of peer assessment. We translated the PALS (Midgley et al., 1998) and, in the fourth study applied a revised version of the PALS (Midgley et al., 2000) to analyse goal orientations.

We developed questionnaires that included items about the motivational variables self-efficacy, attributions, intrinsic motivation, task-value and about cognitive variables such as perceptions of the learning process and learning outcomes.

Reliability analysis revealed that most of the subscales of these research instruments had a sufficiently high Cronbachs' alpha.

#### *Measurement of oral presentation skills.*

The key dependent variable in our studies is the acquisition of oral presentation skills. This introduces the need for an adequate measuring tool. In view of to the preliminary research question about a measurement instrument to measure the mastery of oral presentation skills, a rubric was constructed. This rubric was optimized after the first study, based on the remarks of the professional assessors, after using the instrument when evaluating over two hundred oral presentations. Particular attention was paid to the psychometric characteristics of the instrument: reliability and validity.

The internal consistency of the instrument was found to be good with a Cronbach's alpha ranging between .83 and .89. Interrater reliability proved generally to be satisfying although we reported an assessment bias in chapter 4 where a specific member of the faculty adopted a more lenient view when assessing the oral presentations. The reliability can certainly be heightened by a more intense training of the professional assessors or by further improvement of the instrument. The latter solution does not mean that severe restrictions have to be made because enhancing reliability could then result in lower validity (Jonsson & Svingby, 2007). Performance assessment (like oral presentations assessments) is after all, according to Jonsson and Svingby (2007), by definition open-ended and difficult to measure. Haertel and Means (2000) also remark that performance assessment scores have limited reliability. But should we make a pressing problem of this less perfect reliability? The lower reliability of teacher marking is on the one hand more common than we might think and on the other hand less important in our research setting. Falchikov (2005) cites many studies about the critical reliability and points at the influence of student and teacher characteristics. Reliability is certainly crucial in large-scale assessments, where there is no turning back or

when assessments are used to make decisions about education of students (Haertel & Means, 2000). Reliability might be less crucial when assessment is formative, and not summative in nature. Jonsson and Svingby (2007) argue that what is considered as an acceptable reliability level depends on whether high or low-stake assessment is concerned. As a consequence, lower levels of reliability can be considered acceptable in the case of low-stake assessment. We end this section about reliability by reminding the reader about the limited number of studies that involve professionals/teachers in the context of assessment and study the potential differences related to their specific assessment and evaluation approach.

Content validity of the instrument was checked following the guidelines of Wiersma and Jurs (2005) who consider content validity to depend on the question whether the items are representative of the skills domain being measured. Since the questionnaire is based on six other questionnaires and the positive comments of four experts, we admit that the instrument is valid from this point of view. We have, of course, to take into account the choices made with respect to the focus of our research and subsequently to the choice of assessment criteria, as described earlier. A narrower definition of content validity equals it to the extent the instrument measures the skills that have been covered by the unit of study (Cooper, 2005). This requirement is certainly realized because the instruction is based on the assessment criteria. The construct validity was analysed with a principal components analysis, described in chapter two, resulting in a two factor solution, in line with theoretical expected categories “presentation content” and “presentation delivery”.

### *Developing oral presentation skills*

The instructional objective of the studies in this dissertation is the enhancement of oral presentation skills. This objective was clearly achieved in all the studies. The increase in oral presentation skills performance proved to be significant for most of the assessment criteria. This is reflected in the results for research questions 1, 3, 10 and 11.

It became clear from study one that it is difficult to improve performance scores in relation to all the assessment criteria. Participants reflected the highest progress in relation to content-related criteria. This pattern reappeared in the consequent studies. Progress in relation to the delivery criteria “vocal delivery” and “eye contact”, on the other hand, proved to be limited. Contrasting our results with other studies is marred by the fact that such studies are hardly available. A single comparable study of Yu (2002) is difficult due to the small scale of the latter study. Comparison with two other studies is marred by the fact that the assessment

criteria are very different when studying progress in oral presentation skills (Crossman, 1996; Seibold, Kudsi, & Rude, 1993). It is nevertheless striking that some of the findings are conflicting. Seibold et al. report e.g., that they observe a short-term and long-term change in eye contact; a delivery criterion in our instrument.

It is difficult to explain the differences in impact on oral presentation performance in the different studies, apart from clear research design differences. We nevertheless present some speculations. It is possible that participants did acquire new knowledge and skills via the instructional format, but differ in their prior knowledge and mastery of specific oral presentation skills. This is partly reflected in the lower initial performance scores as to content related items in our studies. A second observation can be made concerning the nature of the learning processes that are needed to develop either content related and delivery related features of oral presentation skills. We can expect that it is more difficult to change the delivery related presentation skills that might be related to habits that cannot be changed overnight. Building on the latter, we can also refer to a possible inhibiting or even negative impact of instructional interventions when influencing complex skills. Clark (1990) refers in this context to the mathemathantic effect of instruction. He explains the possible negative backlash of instruction with three causes: (1) substitution of learning procedures (e.g. new learning strategies interact with the learning of already able learners and prove to be inadequate for less able learners; (2) the fact that the instruction interacts with motivational goals, and (3) the fact that student control is replaced by system control.

A second possible reason for the differences in learning impact can be “disinhibition”. It is possible that participants were disinhibited by the model and subsequently demonstrated knowledge they knew before but were afraid to apply. A third possible reason could be related to self-observation, an important step in the learning process (e.g. Bandura, 1986), because some elements (like eye contact) are more difficult to self-observe than others (like the quality of the conclusion). Despite the differences observed in the increase of oral presentation performance, it has to be stressed that we nevertheless attain in the present studies a positive impact, considering the rather short intervention time in the series studies.

In the following paragraphs we shift our attention to the result found in relation to more specific instructional elements. In the first study we centred on “goals” and “reflection“. In the second study we focused on “modes of feedback”. Next, we focus on the impact of the standardized multimedia intervention. Finally, we centre on the use of self- and peer assessment in our research.

*Role of goal setting and the fostering of self-reflection.*

We observed in the first study (first research question) a significant impact of “goal setting”. Participants in a condition that fosters the definition of specific goals outperformed students in a condition where only a general goal was presented to them. The positive impact was observed at the level of the content-related assessment criteria. This specific result can be considered in the light of the discussion presented above. We were not able to track a study that studied the influence of goal setting in relation to oral presentation skills, but the results of our study are in accordance with the findings of studies in other subject areas. For instance Brown and Latham (2000) describe the effects of goal setting on performance of employees and conclude that specific, difficult goals lead faster to a superior performance when compared to vague goals such as urging them to do their best.

In the first study, we also fostered “self-reflection”. It was hypothesised that participants in a condition that stimulated self-reflection would outperform those in a control condition. The results found were in conflict with the expectations derived from the social-cognitive theoretical framework that predicts that self-reflection influences forethought and future performance (e.g. Zimmerman, 1998). We can explain the conflicting results by criticising the experimental design adopted in our study. It might have been possible that other instructional elements have elicited self-reflection in an uncontrolled way.

*Differential impact of modes of feedback.*

In the second study we examined the differential impact of three modes of feedback. We could not observe significant differences in the development of oral presentation skills between participants who received feedback from professionals from those who received feedback from peers, and from those who developed feedback through self-assessment. These results are difficult to interpret because of the small overall progress achieved by all participants after the feedback sessions. The latter is in contradiction with the findings of several other authors (e.g., Bourhis & Allen, 1998) that could conclude that feedback has a positive effect on the development of oral presentation skills. We hypothesize that the learners in our setting did not use the feedback as was intended. This is one of the possible factors put forward by Elen and Clarebout (2007) to explain unexpected results in studies, though in another content area. They state that in many studies, there is the assumption that students know how to use the support for improving their learning. This might not be the case. To the contrary, these authors clearly suggest that students often have to learn to work with specific tools.

Despite the fact that we could not observe significant differences in oral presentation performance, we can however conclude that students receiving feedback peers were not negatively affected. Therefore, together with Topping (2003), we dare to state the results are nevertheless somewhat positive since the research results suggest that feedback from professionals or from peers does not negatively affect future performance.

*The standardized multimedia instructional intervention.*

In chapter 3 we described the development of a standardized multimedia instruction based on design guidelines that were derived from the social-cognitive perspective towards self-directed learning. The design and development activities resulted in a n instructional intervention that invited learners to study in a standardized and completely autonomous way the key elements of oral presentation skills. Next to the fact that the “standardized” nature of the intervention was critical to set up a controlled research design, the multimedia design also made it possible take into account the four subprocesses (e.g. Bandura, 1986) that constitute the learning cycle of the complex oral presentation skills. The results reported in chapter 3 confirm that the intervention helped to foster the development of oral presentation in a significant way. In addition the results point at the high learner appreciation of the multimedia nature of the instructional intervention (research question 6),

In view of studying research question 11, we compared the impact of a standardised multimedia instructional intervention with a regular intervention where students got opportunities for individual practice. We did not observe significant differences. Nevertheless, some meaningful differences in the impact of both interventions could be observed. The standardised instruction seems to stimulate to a larger extent oral presentation performance about content related criteria. Though the differences are not significant, it is nevertheless relevant to discuss these differences in impact. We hypothesize that- at content level – learners in the standardized multimedia condition, acquire more knowledge about how to come to a conclusion due to the observation of the models in the video-clips. In terms of the developmental levels in self-regulated learning, this implies that they move more quickly from an observational level to a self-control level (Zimmerman, 2000). We also assume that the multimedia intervention affects the three cyclical phases of self-regulated learning (Zimmerman & Kitsantas, 2005) when students learn e.g., to develop a good conclusion for their oral presentation. Good students prepare themselves when asked to deliver a presentation, and begin during the forethought phase to analyse the task. This is fostered because of the standards that have been interiorised after observing the model. In addition,

these interiorised standards help during rehearsing. If they attribute success in delivering the presentation to his preparatory work, this will strengthen their self-efficacy in view of the next speech.

The fact that we could not observe these differences about “delivery related” criteria can again be explained by the observation that the development of delivery related oral presentation skills is more time-demanding. Learning to develop an adequate level of eye contact with the audience might be a more time-consuming process during which the student advances very slowly through all four developmental levels of self-regulated learning. There are multiple reasons to explain why this learning process might be so tedious. We illuminate two possible bottlenecks in this context.

A first bottleneck is linked to self-observation processes during preparation of an oral presentation. Most students don't prepare in front of an audience, and do not tape their presentation during rehearsal. This limits their possibilities for self-observation and consequently implies that there is a rather weak meta-cognitive monitoring of the quality of e.g., the level of eye contact with the audience. The student is not stimulated to consider requirements for a good level of eye contact and does not develop a specific goal targeting this element of oral presentation performance. He consequently also does not develop a strategy to ameliorate his eye contact. Anecdotic evidence shows that students find it hard to plan the strategies appropriate for developing good eye contact. The former can result in an oral presentation during which the student is meta-cognitively overwhelmed by the amount of information to monitor and fails to adjust his behaviour (Zimmerman & Kitsantas, 2005).

A second hypothetical bottleneck is related to motivational issues. Bandura (1986) states that anticipation plays a role in motivation. Students can anticipate that making eye contact with the audience is distracting, and that looking away or at the presentation materials will help to stick to their speech. Though the learner knows that making eye contact is important, he is inhibited to demonstrate this part of the oral presentation skill because of anticipated negative outcomes. An actual presentation performance can reinforce this when looking at notes results in a rather fluent oral presentation

#### *Self- and peer assessment of oral presentations.*

Research questions 4, 7, 8, and 9 focused on the impact and relevance of self- and peer assessment as integrated parts of an instructional format. Both forms of assessment are sources of feedback that direct/influence the production processes, the third sub-process of observational learning (Bandura, 1986). A key question was dealt with whether these

alternative assessment approaches are reliable and valid. This question is usually answered by comparing students and tutors/teacher marks or scores (see e.g., Campbell, Mothersbaugh, Brammer, & Taylor, 2001). In the present studies, learners scored themselves and their peers. These scores were consistently higher as compared to the scores of professional assessors. This finding are in line with results reported in the literature (see e.g., Langan et al., 2005). We found nevertheless a positive, but not always significant, correlation between scores from peers and the scores from professionals and between the scores from the learners and the scores from professionals.

In the chapters 4 and 5 we focused in a more specific way on the value of alternative assessment approaches by conducting a Generalizability study (G-study), based on the analysis procedure of Mushquash and O'Connor (2006). The results from both studies are summarized in Table 6.1. We observe some clear differences. Important differences are situated in the source of the variance. Variance related to the actual oral presentation performance is much larger in study 2 as compared to study 1. The reverse phenomenon is observed with peers as the source of variance. These divergent results require our attention since, in both settings, the same instructional intervention was adopted and comparable personal characteristics were considered.

The difference in the % of variance linked to residual variables, and the small % related to the oral presentation scores suggest that there are problems with the quality of the peer assessment. But this is countered by the results of the Generalizability study, that show a coefficient of .80 in the first G-study and .89 in the second G-study (when combining the scores of four peers ). The results e.g., point at the very low impact of interpersonal relationship between peers and other participants in the instructional setting. The latter can be deduced from the source of variance peers X participants, that measures the inconsistencies of peer assessments of particular participants' performance. This is interesting since - as pointed out by Langan et al.(2005) – it is difficult to guarantee anonymity during a peer assessment process, potentially leading to bias due to the relationship between peers . Therefore, Topping (1998) warned that mostly lower reliability levels of peer assessment are reported in studies about oral presentations. Sellnow and Treinen (2004) however conclude that peer assessments of public speeches are relatively immune to biases. To conclude this section about reliability we nevertheless repeat the warning of Gibbs (2006) that we don't have to be obsessed by reliability and should also concentrate on the educational benefits of self- and peer assessment. The latter can be linked to the earlier discussion about consequential validity introduced in our introductory chapter (Gielen, Dochy, & Dierick, 2003).



Table 6.1

Comparison of estimation of variance components in two Generalizability studies (G-study)

	<i>Variance</i>	<i>%</i>	<i>Variance</i>	<i>%</i>
	<i>G-study 1</i>	<i>G-study 1</i>	<i>G-study 2</i>	<i>G-study 2</i>
<i>Source of variance</i>				
Oral presentation scores	.85	9.7	.18	22
Peers	.18	21.1	.03	3.1
Peers x Criteria	.06	7.4	.03	3.6
Peers X participants	.03	3.0	.03	3.5
Residu	.52	58.8	.55	67.7

In chapter 3, we also studied perceptions of peer assessment. We could conclude that participants hold very positive views. These results are more positive than those reported by several other authors (see e.g., Hanrahan & Isaacs, 2001). It is possible that the more positive view can be linked to what Jonsson and Svingby (2007) call the perception of clarified expectations. This means that in our setting, the participants were clearly informed about criteria and the indicators to be used (see the assessment rubric).

#### *Personal characteristics and the development of oral presentation skills*

According to the social cognitive theoretical framework, human functioning is the result of interplay between behaviour, environment and personal characteristics. The latter implies that we paid explicitly attention to the interaction effects of personal characteristics and instruction on oral presentation performance. This was the focus of research questions 2, 5, 6, 9 and 12. Since we discussed perception variables above, we concentrate in the following paragraphs on motivational constructs, studied in more detail in chapters 1 and 2. Motivational variables play an important role in decisions of learners to demonstrate what they learned (Pintrich, 2003) and constitute the fourth sub-processes of observational learning, the motivational processes (Bandura, 1986). The motivational variables also help to understand a learner's lack of compliance, which is according to Elen and Clarebout (2007) one of the possible factors to explain unexpected results in studies. The important role of motivation is also illustrated by

the unexpected effect of the topic of the oral presentation on performance, as found in our first study.

A regression analysis in the first study pointed at the importance of a performance approach goal orientation, (post-test) self-efficacy, the topic of the presentation and internal attributions as significant predictors of oral presentation performance. By large, the results are in line with the expectations that can be derived from the theoretical framework. An analysis of interaction effects of learner characteristics, instruction and oral presentation performance did not confirm the impact of the personal characteristics in the first study. Self-efficacy was - as expected - the most important predictor.

We also find confirmation for the central role of attribution (see e.g. Eccles & Wigfield, 2002). The results confirm what was found in other attribution-related studies, though not set up in the domain of oral presentation skills acquisition, that internal attribution of success can enhance self-efficacy (see e.g., Schunk, Pintrich, & Meece, 2007). When asked what instructional variable influenced their oral presentation, participants put “preparation” upfront (“internal” and “manageable”), next they refer to the topic or the oral presentation, and thirdly, their abilities. Students were also convinced that their oral presentation performance improved because of the instructional intervention. They reported gains in knowledge, better oral presentation skills and a larger level of self-confidence. In relation to the third motivational construct, goal orientation, the results indicate that students adopt a strong goal orientation. This suggests that we can expect a beneficial effect of this goal orientation since available studies generally associate mastery goals, and in some cases also performance approach goals, with higher performance (e.g., Pintrich, 2003). The latter could yet not be confirmed on the base of the analysis results from our studies.

### **3. Limitations of the studies set up in the context of this PhD**

We structure the limitations of the studies reported in this dissertation according to the steps taken in the research process.

*Review of the literature*

Based on the conceptual base, a review of the literature was set up to study the theoretical and empirical foundations of instructional approaches to develop oral presentation skills. Due to the fact that ‘oral presentation skills’ appeared to be a scarcely researched field of study, that little scarce literature was available that focuses on the design, development and evaluation of instructional interventions in view of oral presentation skills, little guidance was available to direct the studies. Whereas Wiersma and Jurs (2005) indicate that a review of the literature often provides guiding information about theory, research design, research instruments, etc., this was not the case in this context. Of course, a wider focus could have been adopted when reviewing the literature; e.g., by analysing the available literature about the development of professional communication skills. Among other domains, there is extensive research about the latter in the field of medical education or nursing. But, the drawback of this approach is that these type of skills are heavily interlinked with the acquisition and development of competence in a particular knowledge domain. This is in sharp contrast with the generic oral presentation skills that we focus upon in the present dissertation. A further reorientation in the review of the literature could have implied an exploration of the linguistic features of oral presentations, of the specific features of group presentations or of PowerPoint Presentations. But again, this would have implied a very different orientation in the set-up of the studies. Our attempt to study these specific presentation skills can be considered as a stepping stone in developing a stronger theoretical and empirical research filed in the context of the development of professional communication skills in higher education.

*Theoretical framework.*

To ground the design and development of our instructional intervention and to describe and explain the development of the complex oral presentation skills, we adopted the theoretical framework from Bandura (e.g., 1986). Though this theoretical framework has been helpful to develop and study the instructional intervention, the way the variables and processes in the model interact with one another is not always clear. Due to the reciprocal nature of most relationships between the cognitive and motivational variables/processes it is less easy to study e.g., causality. Self-efficacy is e.g., a central concept in the theory of Bandura but its position in the model makes it difficult to study and to interpret results. Various positions can

be taken to study self-efficacy as a dependent variable, an independent variable or a mediating variable.

Secondly, we also acknowledge that opting for the social cognitive theory reflects a particular choice and might exclude other theoretical perspectives. We could e.g., have adopted a purely cognitive perspective and base the design and development approach of the instructional design principles that could be derived from the Cognitive Theory of Multimedia Learning (Mayer, 2000). This alternative theoretical position would have shifted the research towards other key variables to describe and explain the development of oral presentation skills. A stronger focus would have been put on (1) the nature of the multimedia presentation of the materials; (2) on the way cognitive load (Sweller & Chandler, 1991) influences the learning process; (3) on continuing assessment and external monitoring of learner progress; etc. On the other hand, the choice for the social cognitive perspective helped to consider, next to cognitive variables, motivational variables that are repeatedly reported to play a key role in oral presentation skills (e.g. Brown & Morrissey, 2004).

### *Research design*

We adopted a dominantly quantitative approach to study the research designs in this dissertation. It can be argued that the adoption of a qualitative perspective, right from the start of the research could have resulted in a richer set of results and could have helped to put the current results in perspective. The latter is particularly true when we studied the perceptions of the students of peer assessment, the perception about their learning progress, their actual level of involvement in the instructional intervention, etc. An initial qualitative study could also have helped to define the nature of and the quality of specific oral presentation skills to be studied and evaluated in the intervention studies.

The way the dependent and independent variables were measured can be criticized. Available instruments were adopted, and/or adapted. New instruments could have been developed and trialled in a preliminary study. The measurement of the dependent variable in particular can raise concerns; Was the instrument sufficiently sensitive to record and assess progress at a basic level? Nevertheless, we could conclude from our results that the instruments used were reliable and valid. But, the reliability of the assessment instrument for oral presentation skills could be enhanced.

Some of the variables were measured on the base of self-report instruments; e.g., self-efficacy. This can be criticized, and methods based on observation could have enriched this

approach. Bandura (1986; 2006) defends the way self-efficacy has been measured with a Likert scale from 1-10. He nevertheless admits that other scale types could be a better way to measure self-efficacy (e.g., from 1 to 100).

Peers and professionals were trained to use the assessment rubric. We did not check or control the variation in initial expertise, or their prior experience in assessing oral presentation skills.

The quality of an oral presentation was considered as the key dependent variable. This was determined by looking at scores from peers or professionals or the learners themselves. It can be criticized whether this is a relevant or adequate choice. The quality of an oral presentations – in the real life world – does not depend on judgements as adopted in the present studies. The quality of an oral presentation depends in a real life setting on the extent it helped to achieve the presentation goals: selling a product, convincing voters, getting a budget, getting approval for a project, getting things explained as to the causes of an accident, ... It can be questioned whether an oral presentation that is successful according to the “educational standards” is also successful in real life. Building on the former, we can also criticize the fact that we only centred in the studies on the short-term impact of the instructional interventions and not on the middle-term or long-term impact.

A major critique refers to the lack of an extra control condition in the empirical studies. The latter was in particular due to the fact that studies were set up in a naturalistic setting and that it would have been unethical to exclude participants from a condition that might be beneficial for their learning progress. It can be argued that we could have included a second sample from a comparable training/instructional context to serve as a control group. We accept that possibility, but have to add to this the implications for adding a control condition. This would have added an extra work load on the independent experts to assess the oral presentations. This is a labour-intensive activity that already stretched the available resources in the context of the present research design.

Our option to set up the research in a real life educational setting presents benefits and makes the research more ecological valid and potentially relevant for current educational practice, but we have to accept that this also results in a partly less controlled research setting. We could, for instance, not rule out the impact of unknown, uncontrolled learning experiences that participants bring to the research setting. Wayne, Yoon, Zhu, Cronen, & Garet (2008) refer in this context to *ambient* influences.

The choice to adopt a standardized instructional intervention for the quasi-experimental design, might also have affected the potential instructional value. Some

instructional elements that are, according to the literature, very effective were discarded because they hinder standardisation. It was for instance not possible to base the assessment criteria on a discussion between the students. Also, immediate qualitative feedback was omitted because of the same reason.

Lastly, we have to admit that the duration of the interventions – though successful at a certain level – were relatively short. Again, the need to standardize the instructional intervention and to be able to control as much as possible the research setting forced us to develop a time-constrained instructional format. This is in conflict with the observation that developing complex skills takes time.

### *Participants.*

In the different studies, there was limited variation in the nature and the background of the participants. All participants were first year students enrolled for a bachelor degree in Business Administration, with the exception of the last study in which we also involved participants from a language bachelor degree, but from the same University college. As a result, we have to qualify the studies as exploratory in nature. The intervention, the design has to be replicated involving students from other domains and from another educational level (e.g., masters) in order to be able generalise particular research findings.

Finally, the reported results have to be interpreted in a careful way. When significant, the effect sizes were rather small. In addition, some hypotheses could only be partially confirmed.

### *Data analysis*

The limited number of participants in some studies and consequently the limited statistical repertoire made it less easy to analyse in detail the direct and/or interaction effects between student characteristics and instructional variables on oral presentation skills performance. We could e.g., only adopt regression analysis in the first study. This was not possible in the consecutive studies without violating basic assumption about the data.

#### 4. Directions for future research

We criticised the fact that – in the present studies - the quality of an oral presentation was judged on the base of educational criteria. Future research could enrich this approach by also considering the extent to which the oral presentation did achieve its presentation goal. This would also imply that the presentation settings have to be contextualized (e.g., in an internship setting, a practical, a virtual company setting, etc. Additionally, the middle- and long-term impact could be studied.

The aim of our instructional intervention was to ‘learn students to deliver a good public speech’. In future studies, a richer picture has to be developed as to what we understand by a “good” speech. The set of criteria, reflected in the rubric used in this dissertation has to be enriched. Schulz Von Thun (1998), and Wiertzema and Jansen (2004) encourage in this context to look at the richer behavioural complex when models present a presentation. This introduces the need for additional assessment criteria in relation to e.g., “persuasion”, or “self-expression”.

As suggested above, the present research findings are limited because they cannot be compared to empirical evidence attained via alternative or comparable studies. Future research should therefore – building on the available theoretical framework – set up more large scales studies, involving larger and also more varied groups of participants. The expertise levels of the research participants – at the start of the study - should be carefully considered and/or monitored.

Specific hypotheses, studied in this dissertation should be studied again since they could not or could only be partially confirmed. We refer in this context to the potential impact of adding opportunities for self-reflection to an instructional intervention.

The multimedia nature of the instructional intervention, introduces the need to study additional variables. We can for instance study the impact of pacing and timing of feedback. This can clearly be embedded and studied in a standardized instructional intervention. The relevance of these variables has already been pointed out by King, Young and Behnke (2000) who refer to the importance of the timing of feedback, the nature of the information processing requirements inherent in the task and to study continued performance without correcting it immediately. Results of their study indicated for instance that eye contact could successfully be enhanced via immediate but on the base of delayed feedback.

Future research should study again the way student performance depends on individual characteristics. We can investigate for instance if some instructional methods are

more effective for novices and less effective for experts (Kirschner, Sweller, Clark, 2006). The latter is in line with the need to study the impact of the instructional intervention by involving larger and more varied groups of participants.

More information is needed about student perception of the instructional formats. In the present studies we did not continuously control the actual engagement of the learners in the learning environment. In other words, can we be sure that the instructional intervention has been experienced by learners in the way it was designed? Anecdotic evidence suggests that students might differ in their level of active involvement in the learning environment. Some students click on buttons and switch fast to the next episode. Others work more slowly, take notes, ... Additional technical provisions, or software tools could help to keep track of usage parameters, and time management of participants.

Models play a crucial role in our design and development of the instructional intervention. This modelling approach can be refined. We can e.g., introduce corrective modelling after giving personal feedback (Bandura, 1986).

Training in the use of the assessment rubric can help to develop more reliable professional, self- or peer assessment practices. Further research also can clarify the features of self- and peer assessments that procure the learning effects. The work of Van den berg, Admiraal, and Pilot (2006) who compared seven designs of peer assessment, is inspirational in this context.

## **5. Implications and final conclusion**

This dissertation project started in a under-researched domain. The theoretical and empirical work, reflected in the different studies makes it is clear that developing oral presentation skills requires a complex instructional process and a multi-faceted theoretical model to grasp the complex interplay of cognitive and motivational processes. Considering the limitations of the studies discussed above, developing oral presentation skills in a comprehensive way, clearly goes beyond the scope of the research design reflected in our four studies. Nevertheless some interesting results emerged that are expected to foster future research.

Although we realise that a great number of questions remain unanswered, the research presented in this dissertation has some theoretical implications. A basic theoretical framework has been developed in a field where a-theoretical approaches were does far abundant. The empirical studies have helped to ground the relevance and/or impact of a number of variables



an processes in this theoretical model. Some hypotheses suggested by the model and found in the literature could be confirmed; e.g., the importance of self-efficacy.

Research implications are clear. Tools and instruments are available for re-use in replication studies, or to develop more elaborated research designs. Of particular importance were the results of the Generalizability-studies that helped to determine a sufficient reliability level of peer assessment approaches.

At a more practical level, the research also serves current instructional approaches by introducing more evidence-based practices in the field of oral presentation instruction. The standardized multimedia instructional intervention is available and can be used. At the same time, rubrics and procedures are available to direct self- and peer assessment practices. Important considerations that are helpful to direct the instruction of oral presentation skills are available. For instance, instruction or oral presentation skills should promote goal-setting by students. In addition, the focus should be on performance approach goals. Next, initial instruction and instructional feedback should stress the role and importance of internal attribution of success or failure. Lastly, educators should pay attention to the role of self-efficacy. Interventions should try to promote self-efficacy levels of learners.

To conclude, we call for more research in the field of oral and related presentation skills to ground instructional practices to support learners to develop core competences that are central in most higher education curricula and are highly valued in the professional field.

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## **Nederlandstalige samenvatting**

**(Summary in Dutch)**

### **Het optimaliseren van de instructieomgeving bij het aanleren van de competentie presenteren**

Goede presentatievaardigheden worden beschouwd als een kritische professionele vaardigheid. Vooral in het hoger onderwijs krijgt daarom instructie m.b.t. schriftelijke en mondelinge presentatievaardigheden een belangrijke plaats in het curriculum. In tegenstelling tot het onderkende belang en de feitelijke aandacht die eraan besteed wordt in het hoger onderwijs, is er nauwelijks onderzoek verricht naar het aanleren van presentatievaardigheden. Ook valt op dat een theoretische onderbouwing van instructieaanpakken en gerelateerd evaluatieonderzoek vrijwel ontbreekt.

In deze dissertatie focussen we ons in het bijzonder op de mondelinge presentatievaardigheden [oral presentation skills] en dit als onderdeel van de ruimere communicatiecompetenties..

Mondelinge presentatievaardigheden zijn complexe vaardigheden. Dit vraagt een tijdrovend instructie- en leerproces. Dit staat op gespannen voet met de druk op curricula in het hoger onderwijs om veel competenties in een beperkte tijd te ontwikkelen en te ondersteunen. Dit vereist met andere woorden dat instructieaanpakken niet alleen effectief, maar ook efficiënt zijn. Gegeven het gebrek aan evidence-based aanpakken, is hiermee de vraag naar empirisch en theoretisch onderbouwde ontwerpen van instructieaanpakken dringend aan de orde. Het voorgaande stelt de ontwerpers van de instructie overigens voor een uitdaging. Het onderwijs moet niet alleen effectief (worden de doelen bereikt?), maar ook efficiënt zijn (kostprijs, doorlooptijd). Wat dit laatste betreft zijn theoretische concepten m.b.t. zelfgereguleerd leren een bron van inspiratie.

De huidige beschikbare literatuur geeft een versnipperd en beperkt beeld van de relatie tussen elementen van de instructie m.b.t. mondelinge presentatievaardigheden, studentkenmerken die hierbij van invloed zijn en de kwaliteit van de uiteindelijke mondelinge presentatie.

In het eerste hoofdstuk van dit proefschrift wordt het begrip mondelinge presentatievaardigheden afgebakend, wat geen sinecure is gegeven de beperkte literatuur

hieromtrent. Daarbij komt meteen het “meten” van de kwaliteit van de mondelinge presentatievaardigheden aan de orde. In dit hoofdstuk wordt – in functie van het ontwerpen van een instructie-aanpak – de sociaal cognitieve theorie naar voren geschoven als theoretisch referentiekader met als invalshoek het zelfregulerend leren. De concepten en processen uit dit kader worden uitvoerig toegelicht.

Centraal in de sociaal cognitieve invalshoek staan de drie interagerende determinanten van menselijk functioneren: omgeving, gedrag en persoon. De sociaal cognitieve invalshoek benadrukt voor het verwerven van complexe vaardigheden het observationeel leren. Bandura beschrijft observationeel leren op basis van vier subprocessen, die hier kort worden toegelicht. De eerste subprocessen die een rol spelen bij het observationeel leren zijn de aandachttrichtende processen die bepalen welke informatie de lerende zal opnemen. Kenmerken van het geobserveerde model beïnvloeden deze processen. De tweede subprocessen, zijn retentieprocessen waarbij informatie in het langtermijn geheugen opgeslagen wordt. Principes afgeleid van de Cognitive Load Theory en de Cognitive Theory of Multimedia Learning passen bij het ontwerpen van instructie om deze processen te ondersteunen. De productieprocessen benadrukken het uitvoeren van het geobserveerde gedrag dat de lerende vertoont. Dit gedrag lokt op zijn beurt interne en/of externe feedback uit die lerenden inzicht geeft over de relatie tussen het feitelijk gedrag en het gewenste gedrag. Deze processen stellen het krijgen van feedback centraal, wat van belang is voor het ontwerpen van instructie. Dit inspireert bijv. bij het ontwerpen van interventies voor mondelinge presentatievaardigheden het kiezen en integreren van verschillende assessment benaderingen (self, peer en expert assessment). De motivationele processen tenslotte, spelen een grote rol omdat zij bepalen wat van het geleerde effectief zal getoond worden. We onderscheiden vijf motivatieconstructen: self-efficacy, attributies, intrinsieke motivatie, doelgerichtheid en instrumentaliteit (task-value). Het belang van deze motivationele processen heeft onmiddellijke repercussies voor ontwerpaspecten van de instructie-aanpak. Zo wordt bijv. aandacht besteed aan het stimuleren van reflectie en doelbepaling.

Bandura onderscheidt verder bij de zelfregulatie een cyclus van subfuncties: zelf-observatie, zelf-beoordeling en zelf-reactie. Deze cyclus wordt ontelbare keren doorlopen in de leercyclus zowel voor, tijdens als na een mondelinge presentatieprestatie.

Op basis van het literatuuronderzoek en vertrekkende van het theoretisch kader zijn onderzoeksvragen geformuleerd. Deze worden onderzocht in de studies, beschreven in de hoofdstukken 2 tot en met 5. De participanten voor deze studies zijn telkens eerstejaarsstudenten Handelswetenschappen van de toenmalige campus Vlekho; voor de



laatste studie aangevuld met tweedejaarsstudenten uit de opleiding Toegepaste Taalkunde van dezelfde campus. De onderzoeken werden ingebed in het formeel opleidingsonderdeel "Psychologie" tijdens de academiejaren 2004-2005, 2005-2006 en 2006-2007. Voor de beoordelingen door peers werd beroep gedaan op tweedejaarsstudenten Handelswetenschappen, in het kader van het opleidingsonderdeel Presentatie- en communicatievaardigheden.

In het tweede hoofdstuk wordt een onderzoek beschreven waarbij een specifiek beoordelingsinstrument voor presentatievaardigheden is ontworpen. In het eerste onderzoek wordt de hypothese naar voor geschoven dat de instructiecomponenten 'specifieke doelen' en zelfreflectie' een positieve impact zullen hebben op de ontwikkeling van mondelinge presentatievaardigheden. Participanten aan het onderzoek werden at random ingedeeld in vier experimentele condities en doorliepen allen drie instructiesessies waarin ze telkens een presentatie verzorgden. De experimentele instructiecondities verschillen voor wat betreft het al dan niet stimuleren tot het genereren van specifieke leerdoelen en door het al dan niet stimuleren van zelfreflectie. De eerste en laatste presentatie werden als voor- en nameting gebruikt. De onderzoeksresultaten geven aan dat studenten in de conditie waarbij het formuleren van specifieke doelen wordt gestimuleerd, beter presenteren dan studenten die algemene doelen krijgen aangeboden. Studeren in condities waarbij zelfreflectie is gemanipuleerd blijken niet te resulteren in significante verschillen. Een regressieanalyse met 'score bij de laatste presentatie' als afhankelijke variabele en studentkenmerken als predictoren geeft aan dat self-efficacy de belangrijkste predictor van de kwaliteit van een mondelinge presentatie is.

Het derde hoofdstuk behandelt het design en de ontwikkeling van een innovatieve multimediale instructieomgeving gericht op het aanleren van presentatievaardigheden. Hierbij wordt rekening gehouden met de bevindingen van het vorig onderzoek en worden verdere variabelen en processen uit het theoretisch referentiekader geoperationaliseerd. Studenten verwerken via een multimediapresentatie (gebaseerd op videoclips) de criteria/standaarden voor een goede mondelinge presentatie. Participanten doorlopen de gestandaardiseerde instructie individueel aan eigen tempo. De videoclips weerspiegelen een variatie aan modellen. Daarnaast wordt hen de mogelijkheid geboden om de presentatievaardigheden te oefenen door het voorbereiden en geven van een echte presentatie aan een mini-publiek. In een tweede luik krijgen ze feedback over hun presentatie. Deze feedback verkrijgen ze ofwel via zelfobservatie, op basis van peer beoordelingen of op basis van oordelen van professionals. De analyse van de scores voor de beginpresentatie, de tweede presentatie na de

multimediale instructie en de eindpresentatie, geeft aan dat er een significante vooruitgang wordt geboekt in de kwaliteit van de mondelinge presentatievaardigheden. Deze progressie is significant na het doorlopen van de multimediale gestandaardiseerde instructie (eerste fase), maar niet significant na het ontvangen van de feedback (tweede fase). De impact van peer feedback is even groot als die van feedback van professionelen of als de feedback verkregen via zelfobservatie.

In hoofdstuk 4 wordt dieper ingegaan op de impact van self- en peer assessment bij het aanleren van mondelinge presentatievaardigheden. Dit sluit aan bij de evolutie in het onderwijs waarbij studenten een grotere rol toebedeeld krijgen bij assessment en waarbij instructie en assessment meer en meer geïntegreerd worden. Centraal bij dit onderzoek staat daardoor de vraag naar de kwaliteit van assessment door studenten. Meestal dienen de scores toegediend door professionele beoordelaars/ leerkrachten als ijkpunt voor een kwaliteitsanalyse. Ook in dit onderzoek was dit het geval. In de studie werden mondelinge presentaties beoordeeld door professionele beoordelaars, door peers en door de presentatoren zelf. De assessment scores werden vervolgens vergeleken. Van belang daarbij is de kwaliteit van het gebruikte instrument en de kwaliteit en het aantal van de gebruikte beoordelingscriteria. Zoals verwacht – op basis van vergelijkbaar onderzoek in de literatuur - scoorden professionele beoordelaars strenger dan peers en de presentatoren zelf. De vergelijkingen tussen de scores laten zowel verschillen als overeenkomsten zien. Een generalizability-analyse van de scores toegekend door peers, toont evenwel aan dat peer assessments gebaseerd op het oordeel van vier peers volstaat om een voldoende betrouwbare score op te leveren.

In hoofdstuk 5 wordt verder gebouwd op de bevindingen van de vorige hoofdstukken. Er wordt een studie gerapporteerd die het differentieel effect onderzoekt van observationeel leren, al dan niet in combinatie met oefening. De resultaten van hoofdstuk 3 gaven immers duidelijk aan dat presentatievaardigheden verhoogden na het doorlopen van het totale instructiepakket, maar waren onduidelijk voor wat betreft de potentiële differentiële impact van de multimediale gestandaardiseerde instructie en het krijgen van oefenmogelijkheden. In deze studie werden studenten at random ingedeeld in twee onderzoekscondities die alleen verschilden in het tijdstip waarop de gestandaardiseerde multimedia instructie werd aangeboden. In een eerste conditie konden studenten zich vrij – zonder initiële instructie – oefenen in het geven van mondelinge presentaties. Pas in een tweede fase werd de gestandaardiseerde multimediale instructie doorlopen. Participanten in de tweede conditie startten met de multimediale instructie en kregen vervolgens kansen tot het inoefenen van de

verworven vaardigheden en inzichten. Analyse van de resultaten verkregen via dit cross-over design geven aan dat de hypothese slechts gedeeltelijk wordt bevestigd. Participanten die starten met de multimediale instructie i.p.v. met vrij oefenen, scoren enkel significant hoger voor criteria m.b.t. de kwaliteit van het besluit van de mondelinge presentatie. In de discussie bij dit hoofdstuk worden een aantal mogelijke verklaringen voor dit resultaat aangereikt.

Het laatste hoofdstuk, hoofdstuk 6, wordt een synthese gegeven van de verkregen resultaten in relatie tot de verschillende onderzoeksvragen. De resultaten worden met elkaar in verband gebracht en bediscussieerd. Zowel de beperkingen van de onderzoeken als de implicaties van de onderzoeken komen aan bod.

Een eerste vaststelling is dat het theoretisch referentiekader bruikbaar was voor het afleiden van ontwerprichtlijnen voor het ontwerpen van een instructie-interventie voor mondelinge presentatievaardigheden. Ook bij de interpretatie van de bekomen onderzoeksresultaten was het theoretisch raamwerk adequaat omdat het zowel motivationele als cognitieve componenten centraal plaatst.. De ontworpen multimediale instructieomgeving bleek in staat de mondelinge presentatievaardigheden van participanten te optimaliseren, alhoewel dit gemakkelijker bleek te gaan voor inhoudsgerelateerde criteria (bijv. het verzorgen van een inleiding op de presentatie) dan voor criteria die te maken hebben met de manier waarop gepresenteerd wordt (bijv. de mate van oogcontact). Bij de instructie van mondelinge presentatievaardigheden blijkt het stimuleren van zelfgekozen specifieke doelstellingen te leiden tot betere presentaties. Maar verder onderzoek blijkt nog nodig naar de specifieke impact van andere instructievariabelen zoals de rol van feedback en zelfreflectie. Bij de persoonskenmerken blijkt self-efficacy een duidelijk impact te hebben, naast een interne attributie voor succes/falen. Een en ander blijkt afhankelijk te zijn van het inhoudelijke thema van de presentatie. De verwachte interactie-effecten van persoonskenmerken op de invloed van instructievariabelen op de kwaliteit van de mondelinge presentaties kon niet bevestigd worden.

De beperkingen van het uitgevoerde onderzoek hebben allereerst betrekking op het gekozen theoretische referentiekader. De keuze voor alternatieve kaders (bijv. sterk cognitivistische) konden helpen om sterk contrasterende experimentele condities te ontwerpen. Wat betreft het empirisch onderzoek kunnen vragen gesteld worden bij de context waarbinnen het onderzoek werd opgezet en waardoor de generaliseerbaarheid van de gevonden resultaten beïnvloed wordt: eerstejaarsstudenten, van een specifieke opleiding in éénzelfde opleidingsinstelling. Ook de instrumentatie bij de operationalisering van de afhankelijke variabele kan ruimer worden opgevat waardoor ook nog andere criteria m.b.t.

mondeling presenteren aan bod kunnen komen. Een uitbreiding van het onderzoeksdesign vraagt vooral aandacht voor het toevoegen van een kwalitatieve onderzoekscomponent waardoor het leerproces bij het ontwikkelen van mondelinge presentatievaardigheden beter uit de verf kon komen, of waardoor in de voorbereidende fase het ontwikkelen van een assessment instrument beter kon afgestemd worden op kwaliteitsindicatoren die direct aansloten op de curriculumcontext. Uiteraard zijn ook vragen te stellen m.b.t. de duur van de instructie-interventie in functie van het kunnen ontwikkelen van de complexe vaardigheden en het kunnen vaststellen van differentiële effecten in de verschillende onderzoekscondities.

Vervolgonderzoek kan allereerst uitgaan van de vastgestelde beperkingen van het voorliggende onderzoek. Een uitdaging voor vervolgonderzoek is verder het accurater afbakenen, definiëren en operationeel maken van wat een “goede” mondelinge presentatie is. Waar in voorliggend onderzoek vooral onderwijsgerelateerde kwaliteitscriteria werden gebruikt, dringt zich ook onderzoek op naar de kwaliteit van een presentatie in termen van de mate waarin de vooropgezette doelen van de presentatie worden bereikt (bijv. iemand overtuigen, iets verkopen, toestemming krijgen, verkozen worden, ...).

Uiteraard blijven op het einde van een doctoraat nog vele vragen onbeantwoord. Toch is een beloftevolle eerste stap gezet om het onderwijs met betrekking tot mondelinge presentatievaardigheden meer op een evidence-based leest te schoeien. Ook het praktijkveld kan een stap verder met de multimediale gestandaardiseerde instructie, de ontwikkelde assessmentinstrumenten. Toch blijft het essentieel dat vervolgonderzoek wordt opgezet dat - gebaseerd op een verfijnder theoretisch kader – een ruimer aantal varianten onderzoekt. Pas op die manier kunnen we verwachten dat we in de toekomst studenten nog beter kunnen helpen bij het ontwikkelen van hun presentatievaardigheden, die belangrijk zijn in heel wat curricula van het hoger onderwijs en verwacht worden in het latere beroepsleven.