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Assessing together : Peer assessment from an interpersonal perspective

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Citation

Gennip, A. E. van. (2012, October 23). *Assessing together : Peer assessment from an interpersonal perspective*. Retrieved from <https://hdl.handle.net/1887/20012>

Version: Not Applicable (or Unknown)

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Note: To cite this publication please use the final published version (if applicable).

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Title: Assessing together. Peer assessment from an interpersonal perspective

Issue Date: 2012-10-23

CHAPTER 1

Introduction

A central theme nowadays is the responsibility people take for their own lives. The public as well as political discussion moves us more and more towards a society that relies on people's responsibility for their own life in general, and their environment and actions more specifically. This public shift to self-directedness brought about a reformulation of the concept of learning as well: Effective or meaningful learning now means that a learner constructs his own knowledge base that he or she can then use as a tool to interpret the world and solve complex problems with. This implies that learners have to be self-dependent and self-regulating, and have to be motivated to continually use and broaden their knowledge base. Finally, learners need meta-cognitive skills in order to reflect on their own and others' perspectives. Learners need to develop effective strategies to plan and monitor their own learning (Segers, Dochy, & Cascallar, 2003).

These changes in the current views on learning have led to the rethinking of the nature of assessment and argue for a balance between the call to account for what students learn (Assessment of Learning) and the need to create the classroom conditions under which they can and should learn (Assessment for Learning). During the past decades, many authors have tried to define the core features of the Assessment for Learning approach. They have consistently argued that assessment supports learning when teachers actively involve the learners in the assessment processes and when feedback is at the heart of the assessment process. In this respect, the use of peer assessment has been promoted. Although a variety of peer assessment arrangements are currently used in classrooms and peer assessment has gained increased attention by researchers, the learning effects of peer assessment are still not fully understood. More specifically, researchers have been referring to problems with the acceptance of peer feedback and the negative consequences of this lack of acceptance for students' learning from peer assessment. Peer assessment and as a crucial part of it, peer feedback, is an interpersonal process and it might be expected that the interpersonal context in which the peer

assessment takes place, is of utmost importance in its acceptance and thus its learning effect. Therefore, the learning effects of peer assessment might be better understood if we gain more insight into its interpersonal context. This is the core aim of this PhD dissertation.

1 Assessment for Learning

Closely linked to the assessment culture, many authors in the field of assessment in the past decade have argued the balancing of Assessment of Learning and Assessment for Learning. The Assessment for Learning perspective firmly positions assessment as an instrument for developmental purposes. The following definition of Assessment for Learning is provided by the Assessment Reform Group: "Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there" (Assessment Reform Group, 2002, pp. 1-2). Different authors have put forward a set of principles to describe what Assessment for Learning implies (e.g., Black & Wiliam, 1998; Assessment Reform Group, 2002; James & Pedder, 2006). In general, the following four principles are discerned:

1. Dialogue: If Assessment for Learning is to integrate assessment with the daily teaching and learning practice, it has to be a process of continual interaction between teachers and learners, a dialogue in which feedback provision and use are the core elements (Black & Wiliam, 2009).
2. Involvement of the learner: It is beneficial to their learning when learners are provided with the opportunities and the tools to assess to reach their learning goals themselves (Sadler, 1989). Self-assessments can be further complemented by facilitating interchanges through peer assessments, where students take on the role of assessors of each other's work (Black & Wiliam, 1998; Sadler, 1989; Topping, 1998).
3. Providing informative feedback: Feedback defines the learners' strengths and weaknesses and at the same time provides suggestions on the next steps to take in the learning process, whilst providing opportunities to improve upon the work.
4. Transparency of goals and criteria: Clarity on what needs to be achieved is a necessary part of the learning process. This transparency can be strengthened by involving the learners in the process of deciding on and formulating goals and criteria for assessing progress in their learning.

2 Peer assessment and the role of interpersonal beliefs

During the past decade, different models of assessment have been implemented that match the Assessment for Learning principles. In this respect, peer assessment has gained increased attention in research as well as daily classroom practice. The specific context of peer assessment as a tool to support learning is therefore the core object of study in this dissertation.

To date, peer assessment has been implemented in many classrooms. Based on a review of studies on peer assessment (e.g., Van Gennip, Segers, & Tillema, 2009) at least five different arrangements of peer assessment can be identified. They vary in the extent to which students are involved in the process from goal formulation to decision making. Firstly, in *peer marking* students score each others' work against a set of criteria, without further commenting on the work. Students are only involved in the scoring. *Peer feedback* takes this a step further, and allows students to comment on each others' work as well, often supplementing the scoring itself. *Peer grading*, thirdly, grants students the responsibility to make decisions about the outcomes of the assessment. However, feedback is not included in peer grading, while *peer appraisal* does include feedback. Finally, in *peer evaluation* students are not only involved in formulation of peer assessment criteria, scoring, giving feedback and the decision-making, but usually get to give input for the task formulation as well, at the start of the peer assessment process.

The aforementioned arrangements differ in the extent to which the students are involved in the different steps of the assessment process as well as in their role as assessor, from rater to feedback giver. It can be expected that when students are involved in the assessment process from the first steps on (goal formulation) and feedback is at the heart of the assessment process, their interpersonal beliefs will positively change and, in turn, acceptance of feedback and learning effects will increase. More precisely, when students participating in peer assessment collaboratively formulate learning objectives, this enhances similarity in opinion about what a team's task, goal or mission should be or value congruency (Jehn et al., 1999). Moreover, it makes clear to the students that they need each other's input in order to reach optimal learning effects (interdependence) (Johnson & Johnson, 1989; Mesch, Marvin, Johnson, & Johnson, 1988). In addition, by involving the learners collaboratively in the peer assessment process from the start and in this way increasing transparency, teachers enhance the students' feeling of psychological safety, a shared belief that it is safe to take interpersonal risks in a group of people (Edmondson, 1999). On the longer term, by gaining more experience with peer assessment, students' trust in both the self and the other as assessor will increase.

The influence of the aforementioned interpersonal beliefs (value congruency, interdependence, psychological safety, trust) on collaboratively sharing and build-

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ing knowledge and in turn on team performance, has been evidenced in team learning research (e.g., Edmondson, 1999; Van den Bossche et al., 2006). When peer feedback is at the heart of the peer assessment process with peers sharing their insights on the others' work, it can be expected that, in accordance with the findings of team learning research, interpersonal beliefs will positively change and in turn increase learning gains.

3 Overview of the studies

Chapter 2:

A review on the literature considering peer assessment from an interpersonal perspective.¹

This chapter reports a systematic literature review examining empirical studies on the effects of peer assessment for learning, focusing on the structural features of the assessment and the influence of interpersonal beliefs. The aim of this chapter is to provide a general idea of the relation between outcomes of peer assessment on the one hand and interpersonal beliefs and structural features on the other. A structural model of analysis is presented, which serves as the basis for this dissertation. The results of the review show that there is still little evidence of the effects of peer assessment on student learning and hardly any study addressed the interpersonal context in which a peer assessment intervention takes place. These results strengthen us in our conviction of the urgency of our empirical studies.

Chapter 3:

Peer assessment fit for learning: framing the role of interpersonal beliefs.²

This study is a first exploration of the role of interpersonal beliefs in a peer assessment setting, more precisely the beliefs of psychological safety and value congruency. The chapter aims to examine the influence of two different peer assessment arrangements on psychological safety and value congruency, with a teacher assessment arrangement as the baseline condition. The peer assessment and peer assessment⁺ condition differ in the support students receive to develop beliefs of psychological safety and value congruency. The research questions are:

¹ Van Gennip, N. A. E., Segers, M. S. R., & Tillema, H. H. (2009). Peer assessment for learning from a team learning perspective: The influence of interpersonal variables and structural features. *Educational Research Review*, 4, 41-54.

² Van Gennip, N.A.E., Segers, M. S. R., & Tillema (2011, submitted). Arranging peer assessment: the role of interpersonal variables.

- Do students in a peer assessment condition hold more positive beliefs of psychological safety and value congruency than students in a teacher-based assessment condition?
- Do students who have been participating in a reflective session (peer assessment⁺ condition) hold more positive interpersonal beliefs than students who did not participate (peer assessment condition)?
- In which stage of the peer assessment process do students in the peer assessment and peer assessment⁺ conditions differ in interpersonal beliefs?

Chapter 4:

Peer assessment as a collaborative learning activity.³

The second empirical study of this dissertation attempts to get a more in-depth picture of the role of interpersonal beliefs in peer assessment. Firstly, it aims to confirm the results of the first study, in that a teacher assessment setting is compared with a peer assessment setting on how they affect the interpersonal beliefs of students. Second, we aim to explore the relation between interpersonal beliefs and perceived learning and the mediating role of students' conceptions. Previous research indicates the importance of conceptions of assessment for the acceptance and validity of assessments (e.g., Thompson, 1992; Pratt, 1992; Hirschfeld & Brown, 2009). Based on indications of Sluijsmans, Brand-Gruwel and van Merriënboer (2002) and Dochy, Segers and Sluijsmans (1999), we contend that, given that students in this study have no prior experience with peer assessment, the interpersonal beliefs they hold (psychological safety, value congruency, interdependence, trust) will influence how students conceive the peer assessment which in turn will influence perceived learning.

Hence, the first research question is: "Does participating in a peer assessment intervention result in a change in interpersonal beliefs (psychological safety, interdependence, value congruency and trust) and conceptions of peer assessment over time?" Pre-beliefs (prior to the peer assessment intervention) with post-beliefs (measured after the intervention) are compared, as well as a peer assessment condition with a control group. It is expected that a peer assessment intervention leads to higher scores on psychological safety, trust, interdependence, and value congruency (Hypothesis 1). Second research question is: "Is there a relation between (perceived) learning, interpersonal beliefs and conceptions?" It is expected that interpersonal beliefs play a significant role in peer assessment, and influence conceptions of peer assessment as well as perceived learning (Hypothesis 2). It is fur-

³ Van Gennip, N.A.E., Segers, M. S. R., & Tillema, H. H. (2010). Peer assessment as a collaborative learning activity: The role of interpersonal variables and conceptions. *Learning and Instruction*, 20, 280-290.

ther hypothesised that conceptions act as a mediating variable between interpersonal beliefs and perceived learning (Hypothesis 3).

Chapter 5:

The role of interpersonal beliefs in 360 degree feedback.⁴

The last study aims to study the role of interpersonal beliefs in a professional setting where peer feedback is the core of the assessment process and peer assessors have prior experiences with peer assessment. More specifically, in the organisations involved in this study, peer feedback is part of a 360 degree feedback system.

We question the role of participants' interpersonal beliefs (psychological safety, value congruency, interdependence) in their reactions to 360 degree feedback in terms of learning effects. Second, given that participants in this study have prior experiences with peer feedback and therefore have developed conceptions of peer assessment, we explore the role of participants' conceptions of peer assessment as a predictor (and not as a mediator as in chapter 4). Third, we include the role of trust, a variable which has formerly been evidenced as influencing participants' reactions to 360 degree feedback. It might be expected that interpersonal beliefs as well as previously developed conceptions of peer assessment predict the trust the participant has in himself and the peer as assessor. Trust might act as a mediator between the interpersonal beliefs the participants hold and their reactions to 360 degree feedback.

In this study (compared to chapter 4) we argue for a mediating role of trust. The argument lies in the definition of the construct trust. According to Edmondson (2002, p 7-8) "Trust, defined as the expectation that others' future actions will be favorable to one's interests, makes one willing to be vulnerable to those actions... The construct of trust, in contrast to psychological safety, pertains to anticipated consequences across a wide temporal range, including the relatively distant future." In the setting of this study, we ask participants to reflect on their experiences with peer feedback during the past years (and not on the peer assessment intervention they have just participated in as in chapter 4). Therefore, in this setting, we expect that participants beliefs of psychological safety, value diversity and interdependence, as well as how they conceive peer assessment and experience its transparency, have influenced on a longer term the trust they have in themselves and the other as raters and in turn how they react to 360 degree feedback in terms of learning benefits.

⁴ Van Gennip, N., Gijbels, D., Segers, M., & Tillema, H. (2010). Reactions to 360° feedback: the role of trust and trust-related variables. *International Journal of Human Resources Development and Management*, 10, 362-379.

Chapter 6:**General discussion.**

Finally, in chapter 6, we present a general discussion that contains an overview of the main findings and conclusions of the studies that were discussed in the previous chapters. We will discuss the results of the studies presented in this dissertation, and in which way they contribute to the understanding of the role of interpersonal beliefs in peer assessment, which has practically never been studied before. Additionally, theoretical and practical implications are discussed and directions for future research are suggested, as well as considerations for teachers implementing peer assessment as well as managers implementing 360 degree feedback. Furthermore, consequences on the quality of assessment are discussed and the limitations of the studies are outlined, as further ideas for future research.

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