



The role of feedback acceptance and gaining awareness on teachers' willingness to use inspection feedback

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Abstract

Feedback acceptance and use are often seen as requirements for teacher change after a school inspection. Non-educational research, however, points to the role of feedback recipients' willingness to use the feedback received as an intermediate phase between their acceptance and use of the feedback. It also postulates the importance of a recipient's awareness gained from the feedback, cognitive responses and individual characteristics. However, quantitative evidence in school inspection context to support this theory has been non-existent. This study draws on quantitative data collected from 687 teachers in 80 Flemish primary schools that had recently been inspected. By means of structural equation modelling, we build a research model that focuses on the relationship between cognitive responses, teachers' feedback acceptance, awareness gained from the inspection feedback received, and teachers' willingness to use inspection feedback. In addition, the relationship between individual teacher characteristics and the different components in the research model were also taken into account. The analysis reveals that teachers' willingness to use the feedback is predominantly explained by the perceived relevance of the inspection feedback. In addition, we found statistically significant relationships between teachers' willingness to use inspection feedback and feedback acceptance, and also between teachers' willingness to use inspection feedback and awareness gained from inspection feedback too.

Keywords School inspection · Feedback relevance · Feedback acceptance · Awareness gained · Willingness to use feedback · Teacher change

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1 Introduction

Educational systems throughout the world have been encouraged to develop processes that improve the quality standards of education and student achievement. In Europe, the use of school inspections to assess and hold schools accountable for goals related to educational quality and student achievement has been well established (Gärtner et al. 2014). Inspections are often seen as a tool to provide feedback to schools for school improvement. Inspection feedback is defined in this study as specific information on the school's strengths and weaknesses in accordance with a set of preconceived standards (Ehren 2016). School staffs are supposed to learn from this feedback and use it for further improvement through reflection upon their deficits and strengths (Coe 2002). In addition, some educational studies also focus on the role of teacher change (changes in teachers' thinking and classroom behaviour) as a catalyst for successful school development efforts (Grossman et al. 2001; Richardson and Placier 2001).

According to Ehren et al. (2013), besides accountability and school improvement, teacher change is often considered another intended outcome of school inspections, as they provide feedback to teachers with the intent to develop their abilities to deliver high-quality teaching. This is not an obvious outcome of inspections, as most inspectorates are required by law to provide feedback at the school level. When feedback is targeted at the teacher level, strict anonymity must be guaranteed (Penninckx 2015). A previous study of Quintelier et al. (2018), however, found that teachers often receive substantive inspection feedback individually or in groups during a debriefing session regarding their classroom practices, while school-level feedback is generally included in an inspection report. Until now, it has been unclear whether and to what extent teachers are willing to engage in change processes after a school inspection (Penninckx 2015). Therefore, insight into the relationship between inspection feedback and teachers' willingness to use this feedback is essential. The purpose of the current study is to develop a model that can help to unravel the important steps between providing inspection feedback to teachers and teachers' willingness to use this feedback. To develop this model, we delve into the broader literature on feedback use.

According to researchers in applied psychology, an individual's willingness to use feedback is influenced by his or her perceptions about the accuracy of the feedback received (i.e. 'feedback acceptance') (Ilgen et al. 1979; Kinicki et al. 2004). Other empirical studies support this assumption and state that feedback must first be accepted before it will be used (Brett and Atwater 2001; Bell and Arthur Jr 2008). From this viewpoint, teachers' feedback acceptance is an important first step for teachers to support school improvement plans, to understand the benefits of innovation, and to feel secure in their role as implementers of particular actions (Leithwood 2000). Nevertheless, organizational psychologists have found that feedback recipients do not always accept feedback. They relate recipients' acceptance of feedback to the recipients' thoughts (cognitive responses) about source credibility (expertise and trustworthiness), feedback fairness (distributive and procedural justice), and features of feedback (feedback sign, constructiveness, clarity and relevance) (e.g. Brett and Atwater 2001; Ilgen et al. 1979; Leung et al. 2001). These cognitive responses have also received theoretical and empirical attention in recent studies in the field of school inspection research (e.g. Quintelier et al. 2018, 2019). While most of these studies have emphasized the role of inspector credibility in school development processes (e.g.

Chapman 2002; MacBeath 2006; Weiner 2002), a recent study of Quintelier et al. (2019) demonstrated a positive relationship between teachers' acceptance of inspection feedback and their cognitive responses regarding the inspectors' trustworthiness, feedback relevance, and distributive and procedural justice. This study, however, did not take into account teachers' willingness to use inspection feedback. In fact, to our knowledge, little or no research has explicitly examined how feedback acceptance or cognitive responses relate to teachers' willingness to use inspection feedback. Therefore, our first research aim is to describe the relationship between teachers' feedback acceptance and teachers' willingness to use inspection feedback. To maximize the understanding of this relationship, we consider teachers' cognitive responses as antecedents of feedback acceptance.

Based on findings in the field of [psychological assessment feedback](#) (Boudrias et al. 2014; Plunier et al. 2013), we distinguish 'awareness gained from feedback received' as a second component that we expect plays a role in processing feedback and shaping individuals' thinking and behaviour. Several studies in inspection research highlight the importance of the extent to which school inspection feedback creates awareness and leads to new insights into schools' and teachers' functioning in order to influence school improvement (e.g. Ehren 2010; McCrone et al. 2007; Penninckx et al. 2014). For example, several authors found that staffs of schools with a positive inspection outcome are less likely to engage in actions for school improvement since the feedback they receive largely confirms what staff members are already aware of (Dedering and Müller 2011; McCrone et al. 2007; Penninckx et al. 2014; Wilcox and Gray 1996). Studies in the field of inspection research have rarely incorporated teachers' awareness gained from inspection feedback. Therefore, in this study, we aim to understand how teachers' awareness gained from inspection feedback influences their willingness to use this feedback.

Lastly, the characteristics of feedback recipients appear to influence their reactions to feedback. Both Ilgen et al. (1979) and Fedor (1991) have proposed that individual differences directly influence the way in which individuals process feedback and are willing to use it. Concerning school inspection feedback, teachers may perceive feedback as less accurate if there is a discrepancy between the feedback provided and teachers' views of themselves as professionally competent. However, studies that investigate change processes in education seldom take the relationships between teachers' reactions and teacher characteristics into account (Zuber and Altrichter 2018). Therefore, this study incorporates four individual teacher characteristics that have proven to be important in feedback research. These include (1) *feedback utility* (teachers' perceived utility of feedback in general), (2) *feedback self-efficacy* (teachers' perceived competence to interpret and respond to feedback appropriately), (3) *teacher self-efficacy* (teachers' perceptions of their ability to perform well as teachers) and (4) *self-esteem* (the overall value that a teacher places on themselves as a person) (Bell and Arthur Jr 2008; Kluger and DeNisi 1996; London and Smither 2002; Zuber and Altrichter 2018).

In sum, we will focus in this study on teachers' cognitive responses, feedback acceptance and awareness gained from inspection feedback, as well as on the individual teacher characteristics of feedback utility, feedback self-efficacy, teacher self-efficacy and self-esteem. Given our aim of studying the relationships between these concepts, we begin by discussing our conceptualization of these concepts. We build on this

literature review to develop a research model for our study (see Fig. 1) and to formulate the research questions.

2 Conceptual framework

In this section, we provide an overview of the concepts included in the current study and present the relevant evidence available from studies in educational and non-educational contexts.

2.1 Processing inspection feedback: feedback acceptance and awareness gained from inspection feedback

Studies in the field of school change have shown that altering teachers' practices is difficult (Fullan 2002). Researchers in applied psychology have stated that individual processing of feedback is necessary to changing an individual's thinking and behaviour because it is the feedback recipient who decides if developmental efforts are worthwhile (Bell and Arthur Jr 2008). Plunier et al. (2013) determined that both feedback acceptance and awareness gained from the feedback are necessary to process feedback. Based on earlier studies in psychology (Anseel and Lievens 2009; Boudrias et al. 2014; Ilgen et al. 1979), the current study defines 'feedback acceptance' as teachers' perceptions about the accuracy of the inspection feedback received and refers to 'teachers' awareness gained from the inspection feedback' as the perceptions of an individual teacher that the inspection feedback received has contributed to a better understanding of the different aspects of learning and teaching practices at the school and teacher

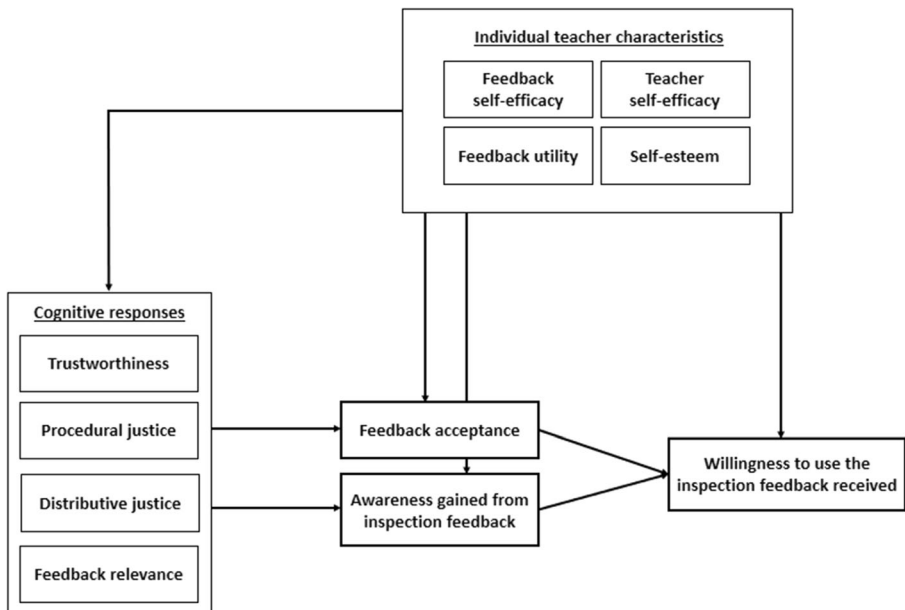


Fig. 1 Conceptual model for teachers' willingness to use school inspection feedback

levels'. According to Boudrias et al. (2014), changes in feedback acceptance and awareness gained from feedback are related, although there is no conditional or necessary association between them. The following examples represent evidence from school inspection research regarding the role of teachers' feedback acceptance and awareness gained from inspection feedback on teacher change.

According to several authors, the extent to which teachers accept feedback influences the extent to which schools and teachers act upon it (e.g. Gustafsson and Myrberg 2011; McCrone et al. 2007), although more recent studies have found that feedback acceptance alone does not necessarily lead to the use of feedback (Ehren et al. 2015; Gärtner et al. 2014; Gustafsson et al. 2015). Wurster and Gärtner (2013), for example, stated that teachers who accept inspection feedback but perceive the inspection as a tool for accountability will feel less need to act on the feedback. The use of rewards or sanctions can interfere with teachers' initial response not to act on feedback and can encourage unintended and undesirable behaviour such as the exclusion of unrewarded activities (Penninckx and Vanhoof 2015). The finding that teachers are not always willing to change their teaching after an inspection has been substantiated in earlier studies as well. Gärtner et al. (2009) found, for example, that only a minority of teachers in recently inspected German schools reacted actively to their school's inspection report. Teachers' perceptions of the inspection quality are often seen as a key to changing their teaching practice (Chapman 2001), although the inspection visit and related feedback is found to disrupt teachers' practices in some cases as well (Case et al. 2000).

Research is scarce on the effects of inspection feedback on teacher awareness. Researchers suggest that feedback from inspections can offer new insights into school and classroom practices, and can influence principals and teachers' intentions to respond to this feedback (Dederig and Müller 2011; McCrone et al. 2007). It must be acknowledged, however, that this assumption is not always confirmed. According to Landwehr (2011), inspectors tend to identify shortcomings that are already known to the school leaders and teachers, but by publishing them in an inspection report, they note these shortcomings officially within and outside the school. Earlier research found that inspection feedback that confirms teachers' own insights into their strengths and weaknesses does not always encourage them to use the feedback received (McCrone et al. 2007). No researchers, to the best of our knowledge, have studied the relationship between teachers' acceptance of and awareness gained from inspection feedback and their willingness to use this feedback. Thus, we propose a model that includes both feedback acceptance and awareness gained from feedback, in order to examine their specific relationships with antecedents and outcomes.

2.2 Antecedents of feedback acceptance and awareness gained from inspection feedback

The current study refers to teachers' cognitive responses in the context of a school inspection visit as their perceptions or thoughts regarding the following: the inspector's credibility (expertise and trustworthiness); the fairness of the inspection process and outcome (respectively procedural and distributive justice); and features of the inspection feedback received (constructiveness, clarity, and relevance) (Quintelier et al. 2018, 2019). A definition and overview of each variable, alongside evidence from inspection contexts, are included in Table 1.

Table 1 Conceptual framework of the current study: teachers' cognitive responses to inspection feedback

Concept	Definition (and origin)	Exemplary overview of findings from earlier research
School inspector trustworthiness	Trustworthiness represents the degree to which a teacher trusts an inspector's intentions and motives, free from biasing factors, at the time of feedback (adapted from Steelman and Rutkowski 2004).	While some studies have suggested that teachers are more likely to accept inspection feedback when inspectors are perceived as professional and collegial, even when the feedback is less positive (e.g. Erdem and Yaprak 2013; Kelchtermans 2007), quantitative evidence of this relationship is scarce. A previous study found only a small indirect relationship between teachers' feedback acceptance and their perceptions of the inspector's trustworthiness that was mediated by teachers' experience of anger (Quintelier et al. 2019).
Procedural justice	Procedural justice relates to the perceived fairness of the inspection process in which information was gathered to determine the outcomes (adapted from Colquitt 2001).	Three studies emphasized the importance of procedural justice in a school inspection context and found that teachers' acceptance of inspection feedback increases when the feedback is provided by inspectors who set clear expectations regarding educational quality and who are willing to engage in a professional dialogue (Gustafsson et al. 2015; Quintelier et al. 2018; Thomas et al. 2000). Wilcox and Gray's (1996) earlier research indicated that efforts to increase the transparency of the judgement process (such as very detailed prescriptions to be followed by inspectors making judgements) strengthen schools' satisfaction with inspections.
Distributive justice	Distributive justice is defined as the perceived fairness of the inspection outcome.	According to several scholars (Kelchtermans 2007; Quintelier et al. 2018), teachers are more likely to reject negative feedback in inspection reports when it is perceived as unfair. When teachers are aware of window dressing activities in schools with positive inspection outcomes, they report feelings of injustice and are less willing to accept negative inspection outcomes (Quintelier et al. 2018).
Feedback relevance	Feedback relevance represents teachers' perceptions of information significance.	Teachers are more likely to accept inspection feedback when its content is relevant to them (Ehren and Visscher 2008; Authors 2019). A previous qualitative study among recently inspected teachers showed that inspection feedback was considered to be relevant when it was related specifically to the classroom level and core activities of teaching, such as lesson planning and preparation. Feedback on school-level factors, such as infrastructure and the curriculum were perceived as less relevant, as the majority of respondents felt less responsible for these domains (Quintelier et al. 2018).

A previous study in the inspection context found that teachers' cognitive responses regarding inspector trustworthiness, distributive and procedural justice and feedback relevance were positively related to their acceptance of inspection feedback (Quintelier et al. 2019). Concerning procedural justice, for example, the latter study found that teachers who believed that the inspection process represented a fair and transparent evaluation scored higher on measures of feedback acceptance (Quintelier et al. 2019). The relationship between teachers' cognitive responses and the awareness gained from inspection feedback has not yet been studied in inspection research.

The existing organizational literature has provided similar explanations about how individuals' cognitive responses affect their acceptance of feedback (Ilgen et al. 1979; Leung et al. 2001; Srijbos et al. 2010), while only one study examined the relationship between feedback acceptance, awareness gained from feedback and individuals' cognitive responses about source trustworthiness and distributive justice (Boudrias et al. 2014).

2.3 Teachers' willingness to use inspection feedback

As noted above, an individual's acceptance of feedback does not equal his or her use of this feedback. Both Ilgen et al. (1979) and Kinicki et al. (2004) highlighted the importance of an individual's willingness to use feedback to improve their job performance in predicting their actual response to feedback (Ilgen et al. 1979; Kinicki et al. 2004; Steelman and Rutkowski 2004). Based on these studies, the current study defines teachers' willingness to use the inspection feedback received as teachers' desire to perform better on areas addressed in the inspection feedback received.

The relationship between feedback acceptance and teachers' willingness to use the inspection feedback received has rarely been studied in the field of school inspection research. A small-scale study in the Flemish education context has demonstrated that teachers who accept inspection feedback are generally willing to use this feedback, but they sometimes find it difficult to generate new ideas for classroom improvement as they feel hindered by the absence of guidelines to initiate and implement improvement actions (Quintelier et al. 2018). Other studies only described the extent to which teachers are willing to use the inspection feedback received. In Chapman's (2001) study, only 20% of participating teachers were willing to change their practice as a result of inspection feedback. This is in line with the results of a German study by Gärtner et al. (2014) who found that teachers and principals tended to judge aspects of school quality as highly stable over time and did not report any change after their schools had been inspected. Given the scarcity of current research on the role of teachers' willingness to use inspection feedback and to engage in change processes, further research on the antecedents and consequences of this phase is urgently needed (Penninckx 2015).

2.4 Individual characteristics of teachers

Although several authors have observed the influence of feedback recipients' characteristics, such as attitudes toward feedback, self-efficacy, and self-esteem on their thinking and behaviour within organizational contexts (Bell and Arthur Jr 2008; Kluger and DeNisi 1996; London and Smither 2002), none of these characteristics has, to our knowledge, been studied in the context of teachers' willingness to use

inspection feedback. Moreover, there seems to be a lack of school inspection research taking individual teacher characteristics into account (Zuber and Altrichter 2018). Based on a literature review, we identified four characteristics that are highly predictive of individuals' willingness to use performance feedback.

1. **Feedback utility:** The perceived utility of feedback (or feedback utility) has been found to influence feedback recipients' motivation to accept and use feedback (Brett and Atwater 2001; Steelman and Rutkowski 2004). Individuals who believe that feedback is useful are more likely to use this information (Makiney and Levy 1998). This has been substantiated in a study by Tuytens and Devos (2014), where a small significant positive relationship was found between teachers' feedback utility and engagement in professional learning activities as a result of feedback discussed during teacher evaluation procedures.
2. **Feedback self-efficacy:** Since inspection feedback often does not include specific guidelines for classroom and school development, teachers' lack of competence regarding data review and analysis can be seen as another reason for the limited use of feedback data for classroom and school development (Ehren et al. 2015). Therefore, feedback self-efficacy, referring to teachers' perceived competence to interpret and respond to feedback appropriately, is included as a precondition for feedback acceptance.
3. **Teacher self-efficacy:** Teacher self-efficacy is a job-specific form of self-efficacy defined as 'teacher's perception of his or her ability to (a) perform required professional tasks and to regulate relations involved in the process of teaching and educating students (classroom effects) and (b) perform organizational tasks, become part of the organization and its political and social processes (organizational effects)' (Friedman and Kass 2002, p. 684). These perceptions determine the goals teachers set for themselves, how much effort they expend to achieve their goals and how they motivate themselves (Bandura 1997). Zuber and Altrichter (2018) examined the relationship between educational change and individual characteristics among Austrian primary school teachers. Their results indicated that self-efficacy fosters openness to educational standards reform which, in turn, increases the likelihood of teachers' participation in data use.
4. **Self-esteem:** Teachers' self-esteem refers to the overall value that a teacher places on himself as a person. It describes the individual's appreciation of their own worth. Research suggests that individual differences in self-esteem might be related to individuals' varied reactions to positive and negative feedback (Kluger and DeNisi 1996). Earlier research indicates that positive feedback led to higher performance for individuals with high (vs. low) self-esteem, and that, when receiving negative feedback, individuals with high self-esteem lower their self-competence evaluations less than those with low self-esteem (Shrauger and Rosenberg 1970).

These examples illustrate that insight into the role of individual teacher characteristics on teachers' feedback acceptance and willingness to use inspection feedback is needed to expand our understanding of teachers' reactions to inspection feedback.

2.5 The current study

While school inspections can be viewed as a tool to facilitate teacher change through the feedback they provide to teachers (Ehren et al. 2013), there are few studies that verify this assumption and examine the processes involved. Hence, the current study aims to examine the relationship between teachers' willingness to use inspection feedback and its antecedents. Based on our literature review, we propose a model (see Fig. 1) that links teachers' individual characteristics and cognitive responses to their acceptance of inspection feedback and awareness gained from the feedback, and to their willingness to use the feedback.

The aims of this study are twofold. First, this study contributes to the current knowledge base because it expands the focus on the role of feedback acceptance in school improvement processes with an emphasis on teachers' awareness gained from inspection feedback. Second, this study posits intermediate processes between teachers' cognitive responses and their willingness to use the inspection feedback received. To these ends, we propose the following research questions (RQ):

1. To what extent are teachers willing to use the inspection feedback received?
2. To what extent are differences between teachers' willingness to use the inspection feedback received related to teachers' feedback acceptance, teachers' awareness gained from the inspection feedback received, and their antecedents (teachers' cognitive responses)?
3. How are differences in teachers' individual characteristics related to (a) their cognitive responses, (b) their feedback acceptance and awareness gained from the inspection feedback received, and (c) their willingness to use the inspection feedback received?

3 Methodology

This article reports on a survey of teachers' perceptions regarding the above-mentioned aspects. The descriptive results on the scales provide an answer to our first research question. Using path analysis, we tested the existence and the strength of the relationships presented in the theoretical framework. Since this study was conducted in Flanders, we first provide an overview of the Flemish school inspection procedure.

3.1 Research context

In Flanders, in principle every school is inspected once every 6 years; this constitutes the sole accountability measure for schools. Unlike education systems in many other countries, the Flemish education system has no central exams or national student tests (OECD 2013). The Inspectorate examines the extent to which a school develops its own quality with regard to management and quality assurance of the teaching and learning practices. In addition, school inspectors examine the extent to which the education provided by the school staff meets the quality expectations of the reference framework, and is in line with regulations (Flemish Inspectorate of Education, 2018). Apart from these accountability-oriented

purposes, the inspectors engage in development-oriented dialogues with teachers and school management.

At least 14 days before the inspection begins, the school leader receives an e-mail and is contacted by telephone. The first day of the inspection visit, inspectors hold an introductory meeting to inform the school leader and teachers on issues of importance and interest to the group. Since the fundamental tenet of Inspection 2.0 is the dialogue between inspectors and the school's stakeholders, during the first 3 or 4 days of the visit, inspectors speak extensively with the policy team and teaching staff, and also, as part of the new approach, with pupils, and parents. During these conversations, inspectors investigate the quality development of the school's policy, selected quality areas and teaching and learning practices (Flemish Inspectorate of Education 2018).

During the penultimate or the last day of the inspection visit, inspectors have reflective discussions with the school's management team and teaching staff. During these discussions, inspectors discuss their preliminary findings and give oral feedback on the school's strengths and shortcomings. Together with the teachers, they discuss teaching and learning areas that need further improvement in order to meet the development-oriented purpose of a school inspection and to encourage the school staff to work on improvement on both school and classroom level (Flemish Inspectorate of Education, 2018). Recent research indicates that Flemish school inspectors provide a number of practical tips—off the record—directly to teachers to strengthen the classroom practice (Quintelier et al. 2018; Penninckx et al. 2014).

After these discussions, the inspectors make their final judgements and inform the school staff. The debriefing session with the school's management team and a number of teachers includes a verbal explanation of the written inspection report. The school receives the inspection report a few days after the inspection visit has been completed. This report is developed following a generic template for all levels of education and for all institutions, and the school's strengths and shortcomings are presented visually. Even in schools that receive a favourable (positive) inspection outcome, inspectors provide feedback on the identified shortcomings and potential areas for school development. As the inspection report can only contain school-level feedback, it includes feedback on the teaching and learning practices in general, although teacher-specific feedback can be included when it is depersonalized.

At the end of the report, the inspection team's advice to the Government of Flanders on the further recognition of the school is stated. An inspection generates a judgement on the school which determines whether the school retains its recognition. There are two possible inspection outcomes: (a) a favourable opinion (with or without major shortcomings) and a school's retention of its recognition without a follow-up or (b) an unfavourable opinion, resulting in initiation of the withdrawal procedure for a school's recognition unless the school devises an improvement plan and obtains assistance from an external agency. To support quality improvement, opportunities for improvement are also addressed in the inspections (Vlaams Ministerie van Onderwijs en Vorming 2016).

3.2 Sample

The sample included every Flemish primary school that was inspected from January through November 2018, for a total of 247 schools. Between 2 and 8 weeks after the

inspection, the leader of each school received a phone call followed by an e-mail informing them of the study. Paper or online questionnaires were sent to teachers in all schools whose leaders agreed to participate. We discussed a preliminary version of the questionnaire with three teachers from a recently inspected primary school (this school was thus excluded from further participation). The feedback we gained from these discussions led to adaptations to the final questionnaire. We collected survey data from 687 teachers in 80 schools (for a response rate of 32.4%). Regarding the outcome of inspections, all schools whose leaders were willing to participate in our study had received a favourable opinion. This is the case with the vast majority of Flemish schools; during the 2017–2018 school year, for example, 149 of the 155 inspected primary schools received favourable opinions, while only six did not (Onderwijsinspectie 2019).

In order to generate a representative sample, both private and public schools were included. A total of 33.0% of the respondents worked in preschools, 61.4% were from primary schools, and 5.6% of participants worked in both preschools and primary schools. Of all participants, 97.5% held a bachelor's degree and 2.5% of participants held a master's degree. The mean age of the respondents was 40 years, and their ages ranged from 21 to 61 years. The mean of respondents' teaching experience in their current school was 14.3 years (with a range of 1–39 years), while their mean overall teaching experience was 17.7 years. In this sample, 84.8% of the respondents were employed full-time as a teacher and 15.24% were employed part-time. Our sample consisted of 87.5% female and 12.5% male participants. These figures indicate a good representation with regard to the target population (Vlaamse Overheid 2018). School student populations varied from 54 to 459 pupils, with 6 to 33 teachers per school.

3.3 Instruments

We used self-report questionnaires to gather our data. All items were in Dutch. Most scales were derived using existing and validated survey instruments (Aelterman et al. 2007; Franck et al. 2008; Linderbaum and Levy 2010; Quintelier et al. (2019). The scales regarding teachers' awareness gained from inspection feedback and teachers' willingness to use inspection feedback were developed and validated during this study.

Table 2 provides an overview of the scales that were included in the questionnaire. The table includes an example item for each scale in addition to information about the psychometric characteristics of the scales. School inspector trustworthiness and feedback relevance were measured using a bipolar scale, and each item was provided with a 7-step continuum for response. This approach is consistent with earlier studies' use of bipolar scales to measure source credibility (e.g. McCroskey and Teven 1999). For the other scales, a 7-point Likert scale was used for all items, with a range from 1 = entirely disagree to 7 = entirely agree and an additional category for 'do not know/inapplicable'.

To determine the construct validity of our survey instrument (i.e. the extent to which the items are compatible with the theoretical construct) (Shin 2017), we conducted an exploratory factor analysis (EFA) across all items and data with oblique rotation. Since the KMO test verified the sampling adequacy

Table 2 Descriptive results and psychometric characteristics of the different scales

	No. of items	<i>M</i>	SD	Cronbach's alpha	ICC
Cognitive responses					
Trustworthiness In general, the inspector was unreliable-reliable.	5	6.10	0.96	0.87	0.46
Procedural justice I believe that the inspection process at our school went fairly.	4	6.23	0.96	0.87	0.46
Distributive justice The final inspection outcome reflects the school's efforts.	4	6.11	1.00	0.89	0.32
Feedback relevance In general, the inspection feedback was irrelevant for me-relevant for me.	3	5.80	0.92	0.78	0.19
Feedback acceptance I generally find the inspection feedback accurate.	4	5.98	0.91	0.78	0.11
Awareness gained from inspection feedback received The inspection feedback makes me more aware of the goals to be achieved during my lessons.	12	4.36	1.27	0.93	0.04
Willingness to use inspection feedback I am willing to change my teaching practice in the classroom based on the inspection feedback.	4	5.80	0.91	0.79	0.03
Individual teacher characteristics					
Feedback utility Feedback is critical for improving performance.	4	5.76	0.83	0.84	0.01
Feedback self-efficacy I believe that I have the ability to deal with feedback effectively.	4	5.46	0.84	0.81	0.05
Teacher self-efficacy I feel that developing knowledge and skills in children works well for me.	4	6.03	0.58	0.83	0.04
Self-esteem I feel I do not have much to be proud of.	4	5.76	0.85	0.75	0.00

(0.81) and Bartlett's test of sphericity was significant ($\chi^2 = 196.027$, $df = 21$, $p = 0.00$), factor analyses were appropriate for our data. We only withheld items with a factor loading $> .35$ (Cohen et al. 2002). The 11-factor solution (represented in Appendix Table 5) consisted of factors with a minimum of three items and explained 60% of the total variance.

The construct validity of the single scales was tested through a confirmatory factor analysis (CFA) using the software package lavaan in R (Rosseeel 2012). Fit indices used to evaluate the validity of the survey scales included the comparative fit index (CFI), the Tucker-Lewis index (TLI) and the root mean square error of approximation (RMSEA). Hu and Bentler's (1999) cutoff values were used as indications for a good model fit: CFI and TLI ≥ 0.95 , RMSEA ≤ 0.08 . In sum, CFA confirmed the validity of all scales (see Appendix Table 5 for an overview of the fit indices of the scales). The estimated factor scores based on the CFA are used as variables in the analyses to test our model.

3.4 Data analysis

To examine the extent to which teachers are willing to use the inspection feedback received (RQ 1), we calculated the descriptive statistics of the different scales by using the software of RStudio. In order to further discover the data, we calculated intraclass correlations (ICC) to investigate whether there were differences between schools. ICC of the scales range are displayed in Table 2 and range from 0.00 to 0.46.

The second and third research questions were analysed using structural equation modelling (SEM) with the software package lavaan in R (Rosseeu 2012). This technique allowed for modelling the direct and indirect relationships between the constructs in this study. Based on our conceptual model (see Fig. 1), a path model was built with teachers' feedback acceptance and awareness gained from inspection feedback as mediators between teachers' cognitive responses and teachers' willingness to use inspection feedback. Covariances among teachers' cognitive responses and among teachers' individual characteristics were taken into account. The nested structure of the data (teachers in schools) was represented using the MLR estimator that takes into account the non-independence of observations and also the possible non-normality of the data (Stapleton et al. 2016). Modification indices were examined to further optimize the initial model.

4 Results

Table 2 summarizes the descriptive results regarding teachers' reactions to inspection feedback. These results provide an answer to our first research question. After this, we discuss the explanatory results which provide insight into the second and third research questions.

4.1 Descriptive results

As shown in Table 2, teachers in our sample, on average, have positive perceptions regarding the inspection teams, processes and inspection outcomes. In general, they consider the school inspectors as trustworthy ($M=6.10$) and the inspection process and inspection outcomes as fair (mean scores for procedural justice and distributive justice, respectively, $M=6.23$ and $M=6.11$). Our data show that teachers respond slightly less positively regarding the feedback relevance, although they are still positive ($M=5.80$).

Regarding teachers' feedback acceptance and awareness gained from inspection feedback, the mean of 5.59 and 4.36 implies that, although teachers tended to agree with the inspection feedback, they responded neutrally to the question of whether the inspection feedback raised their awareness regarding aspects of their learning and teaching practices. Item-level analysis reveals that teachers generally agreed with the findings of the inspectors ($M=5.95$) and found the inspection feedback accurate ($M=5.70$). According to our respondents, the inspection feedback made them more aware of shortcomings at the school level ($M=5.06$) and of the certification requirements for a school ($M=4.94$). The mean of 3.39 indicates that teachers disagreed that the inspection feedback made them more aware of the methods and manuals' guidelines.

Frequencies show that only 31% of the teachers moderately/entirely agreed with this item, while 69% of the respondents responded neutrally to negatively for this variable.

The extent to which teachers were willing to use inspection feedback is primarily positive ($M=5.80$). At the item level, respondents were more willing to use the feedback to alter their teaching and evaluation practices ($M=5.80$ and $M=5.81$ respectively) than to use the inspection feedback for school policy improvement ($M=5.43$).

4.2 Explanatory results

We used SEM to test our conceptual model (Fig. 1). Since the fit indices for the initial model suggested a less-than-adequate fit (CFI = 0.98; TLI = 0.82; RMSEA = 0.10; SRMR = 0.02), we can conclude that this model did not fit the data well. Examination of the modification indices suggested that the model could be improved by adding a path to the model. The next phase in the specification of our model comprised the inclusion of a direct path from feedback relevance to teachers' willingness to use inspection feedback. This resulted in good fit statistics (CFI = 0.99; TLI = 0.99; RMSEA = 0.02; SRMR = 0.01). The standardized regression weights and significance levels of this model are depicted in Fig. 2, which includes only those paths that are statistically significant. For the sake of clarity, paths going from individual teacher characteristics to all variables in the model are not displayed but can be found in Table 3.

With regard to the relationship between teachers' cognitive responses, feedback acceptance and willingness to use the feedback received, our results show that teachers' willingness to use the feedback received is positively related to feedback acceptance ($\beta = .155$), albeit to a small extent. Further, results show that three of the four postulated relationships between teachers' cognitive responses (procedural justice, distributive justice and feedback relevance) and feedback acceptance are statistically significant (respectively $\beta = .257$, $\beta = .245$, and $\beta = .214$). Respondents who assessed the inspection process as fair reported a higher degree of feedback acceptance. There was no

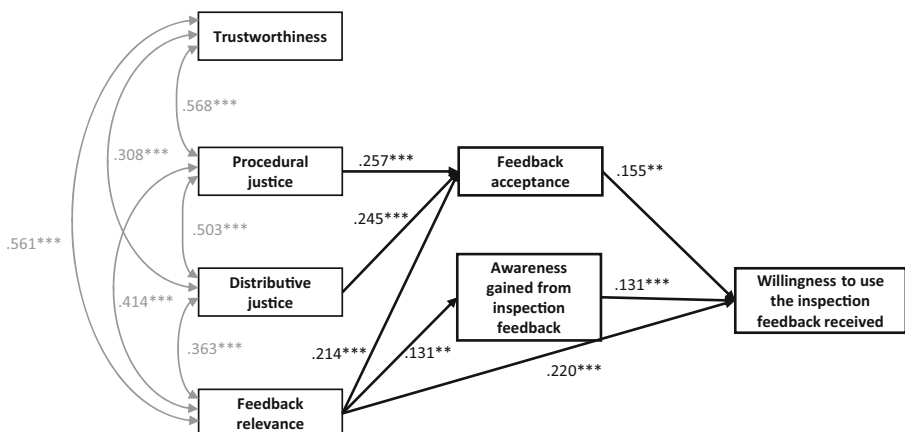


Fig. 2 Path model with standardized parameter estimates ($*p < .05$, $**p < .01$, $***p < .001$)

Table 3 Statistically significant paths going from individual teacher characteristics to all variables

	Feedback utility	Feedback self-efficacy	Teacher self-efficacy	Self-esteem
Inspector trustworthiness				.132**
Procedural justice	.153**	.084*	.148***	
Distributive justice	.099*	.121**	.112**	
Feedback relevance	.195***	.107*		
Feedback acceptance	.102*			
Awareness gained from inspection feedback	.129**		– .121**	.088*
Willingness to use inspection feedback	.152***			

statistically significant relationship demonstrated between inspector trustworthiness and feedback acceptance.

The path model also confirms our assumption that teachers' awareness gained from inspection feedback received would relate positively to teachers' willingness to use the feedback ($\beta = .131$). The relationship between teachers' cognitive responses and awareness gained was not all statistically significant. We only found a positive relationship between feedback relevance and awareness gained from the inspection feedback received ($\beta = .214$). In other words, teachers who perceived the inspection feedback as relevant reported an increased awareness resulting from the feedback they received.

As shown in Table 3, the variances within the different constructs are only to a limited extent related to differences in individual teacher characteristics. We found statistically significant relationships between feedback self-efficacy and respectively procedural justice, distributive justice and feedback relevance, and also between feedback utility and procedural justice and between distributive justice and feedback relevance. In addition, statistically significant relationships were found between feedback utility and respectively teachers' acceptance of feedback, awareness gained from inspection feedback received and teachers' willingness to use the feedback. These results suggest that the more teachers perceive feedback as a necessary tool for professional development, the more willing they are to use the inspection feedback that they have received.

Differences in teachers' self-efficacy are positively related to teachers' perceptions of procedural and distributive justice. This contrasts with a negative relationship between teacher self-efficacy and awareness gained from inspection feedback received, indicating that the more teachers believe in their ability to teach well, the more negatively they respond to the question of whether the feedback received contributed to a better understanding of the different aspects of learning and teaching practices. Differences in self-esteem did not play an important role in our model since trustworthiness was not statistically related to teachers' processing of inspection feedback and the relationship between self-esteem and teachers' willingness to use inspection feedback proved negligible (Table 4).

The overall model provides a reasonable explanation for teachers' feedback acceptance. The R^2 value denotes that 44% of the variance in this variable can be explained by the model. Additionally, the model explains the variation in teachers' awareness

Table 4 Total explained variance of dependent variables

	The total explained variance (R^2)
Inspector trustworthiness	0.033
Procedural justice	0.100
Distributive justice	0.089
Feedback relevance	0.076
Feedback acceptance	0.443
Awareness gained from inspection feedback	0.089
Willingness to use inspection feedback	0.225

gained from feedback and, to a smaller extent, teachers' willingness to use the inspection feedback received as the R^2 value shows a percentage of 9% and 23% of explained variance, respectively.

5 Discussion and conclusion

Using data from self-report questionnaires, this study investigated the extent to which 687 teachers from 80 primary schools accepted and were willing to use school inspection feedback to alter their teaching and learning practices, and to what extent the feedback contributed to their understanding of the different aspects of learning and teaching practices, thus leading to increased awareness. It also examined the relationship between teachers' willingness to use inspection feedback and its antecedents and studied the differences in teachers' reactions to feedback as related to individual teacher characteristics. These topics are discussed consecutively.

First, we found that teachers largely accepted the inspection feedback received, but that the awareness they gained from the inspection feedback was limited. Teachers were largely willing to use the feedback to alter their teaching and evaluation practices, but less willing to use it to make changes at the school level (school policy purposes). An explanation for this finding could be that Flemish teachers feel less called upon to participate in improvement attempts at the level of school policy. Consequently, teachers may tend to use inspection feedback to make decisions in their own classrooms, rather than to make decisions concerning school organization, budgeting or staffing (OECD 2013).

Next, this study provided support for the postulated relationship between teachers' willingness to use inspection feedback and feedback acceptance, and also between teachers' willingness to use inspection feedback and awareness gained from inspection feedback, a component that has not often been addressed in school inspection research. The relationship between feedback relevance and teachers' willingness to use inspection feedback was found to be statistically significant as well. The significance of positive perceptions of feedback relevance was also shown to be related to teachers' feedback acceptance and to their awareness gained from inspection feedback. Based on the current results, the perceived relevance of feedback seems a very important

predictor of subsequent improvement after a school inspection, although this topic is also underexplored in existing inspection research.

As in previous studies in the field of feedback research, the selected individual teacher characteristics of feedback self-efficacy, feedback utility and teacher self-efficacy were found to be related to components of the feedback process model (Bell and Arthur Jr 2008; Kluger and DeNisi 1996; London and Smither 2002). Both feedback self-efficacy and feedback utility were related to teachers' cognitive responses to procedural justice, distributive justice and feedback relevance. We also found a direct relationship between feedback utility and feedback acceptance, awareness gained from inspection feedback and teachers' willingness to use the feedback, but these relationships were not demonstrated for feedback self-efficacy. Our results are thus in line with most researchers, which have stated that feedback recipients' beliefs about feedback utility are positively related to their use of this feedback to enhance their professional learning activities (Brett and Atwater 2001; Linderbaum and Levy 2010; Tuytens and Devos 2014).

The negative relationship demonstrated between teacher self-efficacy and awareness gained from the inspection feedback received is remarkable. Teachers who believe strongly in their ability to teach reported that inspection feedback did not contribute to their understanding of the different aspects of learning and teaching practices. According to Lapp and Fisher (2011), there is evidence that teachers tend to overestimate their own knowledge and skills. A small degree of overestimation can increase an individual's efforts and perseverance beyond what a lower sense of self-efficacy can generate. However, a gross overestimation of one's knowledge and skills can lead to resistance to engagement in professional development opportunities (Bandura 1997). This could also explain the lack of a statistically significant relationship between teachers' self-efficacy and their willingness to use the inspection feedback received. Based on these findings, we cannot confirm the findings from Zuber and Altrichter's (2018) study that point to a strong link between self-efficacy and teachers' willingness to participate in competence-oriented teaching and data use. Further in-depth research should explore this phenomenon in order to understand the role of teacher self-efficacy in feedback use processes.

An important contribution of the current study to the field of research on inspections is that we applied theoretical concepts from a broad range of feedback literature to the context of school inspection feedback and operationalized these indicators. Our results show that each scale measured one and only one theoretical concept and that the variance across indicators of different concepts (e.g. feedback relevance, feedback acceptance, awareness gained, willingness to use) was due to conceptual differences and not to measurement issues. Contrary to what is suggested in theoretical feedback models (e.g. Ilgen et al. 1979), the variance in teachers' feedback acceptance and willingness to use inspection feedback is only to a small extent explained by their cognitive responses and individual characteristics. Much work remains to be done as we seek to unravel the determinants and consequences of teachers' feedback acceptance and their willingness to use the inspection feedback they received. For example, specific research on the role of contextual factors may provide a useful addition to the results of this study.

Our findings offer opportunities for further research despite their limitations. First, we cannot claim to provide evidence on the causal effects of school inspections, since

our research was based on cross-sectional data which generally does not distinguish correlation from causation. In order to create a better basis for causal inference, a longitudinal research design could be used to compare, for example, the differences in responses of teachers before, during and after an inspection (in the short and long term). In addition, recent studies on the effects of school inspections have argued that teachers are more likely to accept inspection feedback in low-stakes systems (such as Flanders) than in high-stakes systems (Ehren et al. 2015; Altrichter and Kemethofer 2015; Kemethofer et al. 2017). Therefore, we recommend future research that compares and integrates findings from low-stakes and high-stakes educational evaluation environments. A third limitation concerns the sampling of the respondents, as the way schools respond to the inspection feedback may depend upon the nature of the inspection findings. The empirical evidence provided in this dissertation was collected solely from schools that had received a favourable opinion as unfavourable opinion is scarce in Flemish primary schools, and school leaders in schools with a negative outcome refused to participate, stating they did not want to cause (additional) stress and anxiety among their teaching staff after the school inspection. The absence of schools with negative inspection outcomes may have biased our findings. Teachers in schools with a negative inspection outcome may show different responses and reactions to the feedback received. Therefore, we suggest that future research focuses on schools that received a negative inspection outcome and that future researchers could augment the current research findings with structured interviews or case studies to more fully explore the relationship between teachers' receipt of inspection feedback and their willingness to use this feedback at the classroom and school levels.

Based on our findings, we can conclude that, when providing inspection feedback to teachers, inspectors should take the relevance of this feedback into account, as this might affect how the teachers accept and are willing to use this inspection feedback received. Based on a previous study, we know that teachers perceive inspection feedback as relevant when it relates to core activities at the classroom level, while feedback on school infrastructure or the curriculum is perceived as less relevant as teachers feel less responsible for these domains (Quintelier et al. 2018). In some countries, such as England, school leaders are invited to become part of an inspection team so they can use their experience and knowledge in the development of their own schools (Ehren 2016). This could provide an opportunity for teachers in Flanders to undertake similar activities, so they can acquire cross-school and cross-network expertise. Furthermore, we believe that teachers will use inspection feedback at both the school and classroom levels when they have a sense of ownership and a belief that they can influence and lead school improvement efforts. School leaders should ensure that their schools' organization allows teachers to break down barriers and to achieve their collective purpose of fostering learning for all (Saunders et al. 2017). Finally, our results show that individual teachers' characteristics are related to their cognitive responses and their subsequent reactions to feedback. Professional development programmes could incorporate guidance for teachers on how to deal with feedback, in order to increase teachers' perceptions of the usefulness of feedback and to strengthen their capacities to use it. If the development-oriented aspects of feedback are emphasized, teachers can practise giving and receiving feedback and thus increase their confidence in working with it.

Appendix

Table 5 Results of the EFA

		Fit indices of the scales
Cognitive responses		
Credibility_1	.51	CFI = 0.957
Credibility_2	.56	TLI = 0.950
Credibility_3	.65	RMSEA = 0.048
Credibility_4	.64	SRMR = 0.036
Credibility_5	.79	
Procedural-Justice_1	.52	
Procedural-Justice_2	.66	
Procedural-Justice_3	.73	
Procedural-Justice_4	.64	
Distributive-Justice_1	.56	
Distributive-Justice_2	.82	
Distributive-Justice_3	.91	
Distributive-Justice_4	.86	
Feedback-Relevance_1	.60	
Feedback-Relevance_2	.82	
Feedback-Relevance_3	.41	
Teachers' feedback acceptance		
Feedback-Acceptance_1	.39	CFI = 0.999
Feedback-Acceptance_2	.69	TLI = 0.994
Feedback-Acceptance_3	.51	RMSEA = 0.033
Feedback-Acceptance_4	.82	SRMR = 0.007
Teachers' awareness gained from the inspection feedback received		
Awareness-Gained_1	.60	CFI = 0.965
Awareness-Gained_2	.75	TLI = 0.953
Awareness-Gained_3	.80	RMSEA = 0.074
Awareness-Gained_4	.78	SRMR = 0.029
Awareness-Gained_5	.86	
Awareness-Gained_6	.66	
Awareness-Gained_7	.81	
Awareness-Gained_8	.75	
Awareness-Gained_9	.86	
Awareness-Gained_10	.68	
Awareness-Gained_11	.52	
Awareness-Gained_12	.76	
Teachers' willingness to use the inspection feedback received		
Willingness-To-Use_1	.83	CFI = 0.992
Willingness-To-Use_2	.94	TLI = 0.977
Willingness-To-Use_3	.68	RMSEA = 0.078
Willingness-To-Use_4	.36	SRMR = 0.018

Table 5 (continued)

		Fit indices of the scales
Individual teacher characteristics		
Feedback-Utility_1	.62	CFI = 0.958 TLI = 0.948 RMSEA = 0.049 SRMR = 0.042
Feedback-Utility_2	.83	
Feedback-Utility_3	.72	
Feedback-Utility_4	.82	
Feedback-Self-efficacy_1	.54	
Feedback-Self-efficacy_2	.65	
Feedback-Self-efficacy_3	.67	
Feedback-Self-efficacy_4	.71	
Teacher-Self-efficacy_1	.54	
Teacher-Self-efficacy_2	.50	
Teacher-Self-efficacy_3	.79	
Teacher-Self-efficacy_4	.90	
Teacher-Self-efficacy_5	.71	
Self-Esteem_1		.41
Self-Esteem_2		.75
Self-Esteem_3		.83
Self-Esteem_4		.49

Only items with factor loading > .35 are included (Cohen et al. 2002)

References

- Aelterman, A., Engels, N., Van Petegem, K., & Pierre Verhaeghe, J. (2007). The well-being of teachers in Flanders: the importance of a supportive school culture. *Educational Studies*, 33(3), 285–297.
- Altrichter, H., & Kemethofer, D. (2015). Does accountability pressure through school inspections promote school improvement? *School Effectiveness and School Improvement*, 26(1), 32–56.
- Anseel, F., & Lievens, F. (2009). The mediating role of feedback acceptance in the relationship between feedback and attitudinal and performance outcomes. *International Journal of Selection and Assessment*, 17(4), 362–376.
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York: Freeman.
- Bell, S. T., & Arthur Jr., W. (2008). Feedback acceptance in developmental assessment centers: the role of feedback message, participant personality, and affective response to the feedback session. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 29(5), 681–703.
- Boudrias, J. S., Bernaud, J. L., & Plunier, P. (2014). Candidates' integration of individual psychological assessment feedback. *Journal of Managerial Psychology*, 29(3), 341–359.
- Brett, J. F., & Atwater, L. E. (2001). 360° feedback: accuracy, reactions, and perceptions of usefulness. *Journal of Applied Psychology*, 86(5), 930–942.
- Case, P., Case, S., & Catling, S. (2000). Please show you're working; a critical assessment of the impact of Ofsted inspection on primary teachers. *British Journal of Sociology of Education*, 21(4), 605–621.
- Chapman, C. (2001). Changing classrooms through inspection. *School Leadership & Management*, 21(1), 59–73.
- Chapman, C. (2002). Ofsted and school improvement: teachers' perceptions of the inspection process in schools facing challenging circumstances. *School Leadership & Management*, 22(3), 257–272.

- Coe, R. (2002). Evidence on the role and impact of performance feedback in schools. In A. J. Visscher & R. Coe (Eds.), *School improvement through performance feedback* (pp. 3–26). Lisse: Swets and Zeitlinger.
- Cohen, L., Manion, L., & Morrison, K. (2002). *Research methods in education*. Oxford: Routledge.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: a construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386–400.
- Dederig, K., & Müller, S. (2011). School improvement through inspections? First empirical insights from Germany. *Journal of Educational Change*, 12, 301–322.
- Ehren, M. C. M. (2010). Effecten van toezicht op het basisonderwijs. *Pedagogische studiën*, 87, 165–182.
- Ehren, M. C. M. (2016). Introducing school inspections. In M. C. M. Ehren (Ed.), *Methods and modalities of effective school inspections. Accountability and educational improvement* (pp. 1–16). London: Springer International Publishing.
- Ehren, M. C. M., & Visscher, A. J. (2008). The relationships between school inspections, school characteristics and school improvement. *British Journal of Educational Studies*, 56(2), 205–227. <https://doi.org/10.1111/j.1467-8527.2008.00400.x>.
- Ehren, M. C. M., Altrichter, H., McNamara, G., & O'Hara, J. (2013). Impact of school inspections on improvement of schools—describing assumptions on causal mechanisms in six European countries. *Educational Assessment, Evaluation and Accountability*, 25(1), 3–43. <https://doi.org/10.1007/s11092012-9156-4>.
- Ehren, M. C., Gustafsson, J. E., Altrichter, H., Skedsmo, G., Kemethofer, D., & Huber, S. G. (2015). Comparing effects and side effects of different school inspection systems across Europe. *Comparative Education*, 51(3), 375–400.
- Erdem, A. R., & Yaprak, M. (2013). The problems that the classroom teachers working in villages and county towns confront in educational inspection and their opinions concerning the effect of these problems on their performance. *Educational Research and Reviews*, 8(1), 455–461.
- Fedor, D. B. (1991). Recipient responses to performance feedback: a proposed model and its implications. *Research in Personnel and Human Resources Management*, 9(73), 120.
- Flemish Inspectorate of Education (2018). *Onderwijsspiegel 2018 [Education Mirror]*. Brussel: Onderwijsinspectie /Vlaams Ministerie van Onderwijs en Vorming.
- Franck, E., De Raedt, R., Barbez, C., & Rosseel, Y. (2008). Psychometric properties of the Dutch Rosenberg self-esteem scale. *Psychologica Belgica*, 48(1), 25–35.
- Friedman, I. A., & Kass, E. (2002). Teacher self-efficacy: a classroom-organization conceptualization. *Teaching and Teacher Education*, 18(6), 675–686.
- Fullan, M. (2002). The role of leadership in the promotion of knowledge management in schools. *Teachers and Teaching*, 8(3), 409–419.
- Gärtner, H., Hüsemann, D., & Pant, H. A. (2009). Wirkungen von Schulinspektion aus Sicht betroffener Schulleitungen. Die Brandenburger Schulleiterbefragung. [The effects of school inspection from the viewpoint of school principals affected]. *Empirische Pädagogik*, 23(1), 1–18.
- Gärtner, H., Wurster, S., & Pant, H. A. (2014). The effect of school inspections on school improvement. *School Effectiveness and School Improvement*, 25(4), 489–508. <https://doi.org/10.1080/09243453.2013.811089>.
- Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a Theory of Teacher Community. *The Teachers College Record*, 103, 942–1012.
- Gustafsson, J. E., & Myrberg, E. (2011). *School inspections of Swedish schools: a critical reflection on intended effects, causal mechanisms and methods*. Unpublished working paper, LLP-project 'Impact of school inspections on teaching and learning'. Gothenburg: University of Gothenburg.
- Gustafsson, J. E., Ehren, M. C. M., Conyngham, G., McNamara, G., Altrichter, H., & O'Hara, J. (2015). From inspection to quality: ways in which school inspection influences change in schools. *Studies in Educational Evaluation*, 47(1), 47–57. <https://doi.org/10.1016/j.stueduc.2015.07.002>.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Ilgel, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64(4), 349–371. <https://doi.org/10.1037/0021>.
- Kelchtermans, G. (2007). Macropolitics caught up in micropolitics: the case of the policy on quality control in Flanders (Belgium). *Journal of Education Policy*, 22(4), 471–491. <https://doi.org/10.1080/02680930701390669>.
- Kemethofer, D., Gustafsson, J. E., & Altrichter, H. (2017). Comparing effects of school inspections in Sweden and Austria. *Educational Assessment, Evaluation and Accountability*, 29(4), 319–337.
- Kinicki, A. J., Prussia, G. E., Wu, B. J., & McKee-Ryan, F. M. (2004). A covariance structure analysis of employees' response to performance feedback. *Journal of Applied Psychology*, 89(6), 1057–1069.

- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory.
- Landwehr, N. (2011). Thesen zur Wirkung und Wirksamkeit der externen Schulevaluation [Theses on the impact and effectiveness of the external evaluation of schools]. In C. Quesel, V. Husfeldt, N. Landwehr, & N. Steiner (Eds.), *Wirkungen und Wirksamkeit der externen Schulevaluation* (pp. 35–70). Bern: h.e.p.
- Lapp, D., & Fisher, D. (Eds.). (2011). *Handbook of research on teaching the English language arts: co-sponsored by the International Reading Association and the National Council of Teachers of English*. New York: Routledge.
- Leithwood, K. (2000). Introduction: understanding schools as intelligent systems. In K. Leithwood (Ed.), *Understanding schools as intelligent systems* (pp. 1–15). Stamford: JAI Press.
- Leung, K., Su, S., & Morris, M. W. (2001). When is criticism not constructive? The roles of fairness perceptions and dispositional attributions in employee acceptance of critical supervisory feedback. *Human Relations*, 54(9), 1155–1187. <https://doi.org/10.1177/0018726701549002>.
- Linderbaum, B. A., & Levy, P. E. (2010). The development and validation of the Feedback Orientation Scale (FOS). *Journal of Management*, 36(6), 1372–1405.
- London, M., & Smither, W. (2002). Feedback orientation, feedback culture, and the longitudinal performance management process. *Human Resource Management Review*, 12, 81–100.
- MacBeath, J. (2006). *School inspection and self-evaluation: working with the new relationship*. New York: Routledge.
- Makiney, J. D., & Levy, P. E. (1998). The influence of self-ratings versus peer ratings on supervisors' performance judgments. *Organizational Behavior and Human Decision Processes*, 74(3), 212–228.
- McCrone, T., Rudd, P., Blenkinsop, S., Wade, P., Rudd, S., & Yeshanew, T. (2007). *Evaluation of the impact of section 5 inspections*. Slough: National Foundation for Educational Research.
- McCroskey, J. C., & Teven, J. J. (1999). Goodwill: A reexamination of the construct and its measurement. *Communications Monographs*, 66(1), 90–103.
- OECD. (2013). Synergies for better learning. *An international perspective on evaluation and assessment OECD Reviews of Evaluation and Assessment in Education*. Paris: OECD.
- Onderwijsinspectie (2019). *Onderwijspiegel 2019 [Education Mirror]*. Brussel: Onderwijsinspectie / Vlaams Ministerie van Onderwijs en Vorming16.
- Quintelier, A., Vanhoof, J., & De Maeyer, S. (2018). Understanding the influence of teachers' cognitive and affective responses upon school inspection feedback acceptance. *Educational Assessment Evaluation and Accountability*, 30(4), 399–31. <https://doi.org/10.1007/s11092-018-9286-4>.
- Quintelier, A., De Maeyer, S., & Vanhoof, J. (2019). Determinants of Teachers' Feedback Acceptance during a School Inspection Visit. *School Effectiveness and School Improvement*. <https://doi.org/10.1080/09243453.2020.1750432>.
- Penninckx, M. (2015) *Inspecting school inspections*. Doctoral dissertation. University of Antwerp.
- Penninckx, M., & Vanhoof, J. (2015). Insights gained by schools and emotional consequences of school inspections. A review of evidence. *School Leadership & Management*, 35(5), 477–501. <https://doi.org/10.1080/13632434.2015.1107036>.
- Penninckx, M., Vanhoof, J., De Maeyer, S., & Van Petegem, P. (2014). Exploring and explaining the effects of being inspected. *Educational Studies*, 40(4), 456–472. <https://doi.org/10.1080/03055698.2014.930343>.
- Plunier, P., Boudrias, J. S., & Savoie, A. (2013). Appropriation cognitive du feedback en évaluation du potentiel: validation d'une mesure. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology*, 63(2), 87–97.
- Richardson, V., & Placier, P. (2001). Teacher change. In V. Richardson (Ed.), *Handbook of research on teaching* (pp. 905–947). Washington, DC: AERA.
- Rosseel, Y. (2012). Lavaan: an R package for structural equation modeling and more. Version 0.5–12 (BETA). *Journal of Statistical Software*, 48(2), 1–36.
- Saunders, M., Alcantara, V., Cervantes, L., Del Razo, J., Lopez, R., & Perez, W. (2017). Getting to teacher ownership: how schools are creating meaningful change. Annenberg Institute for School Reform at Brown University.
- Shin, D. (2017). Conceptualizing and measuring quality of experience of the Internet of things: Exploring how quality is perceived by users. *Information and Management*, 54(8), 998–1011.
- Shrauger, J. S., & Rosenberg, S. E. (1970). Self-esteem and the effects of success and failure feedback on performance 1. *Journal of Personality*, 38(3), 404–417.
- Stapleton, L. M., McNeish, D. M., & Yang, J. S. (2016). Multilevel and single-level models for measured and latent variables when data are clustered. *Educational Psychologist*, 51(3–4), 317–330.
- Steelman, L. A., & Rutkowski, K. A. (2004). Moderators of employee reactions to negative feedback. *Journal of Managerial Psychology*, 19(1), 6–18. <https://doi.org/10.1108/02683940410520637>.

- Strijbos, J. W., Narciss, S., & Dünnebier, K. (2010). Peer feedback content and sender's competence level in academic writing revision tasks: are they critical for feedback perceptions and efficiency? *Learning and Instruction*, 20(4), 291–303.
- Thomas, G., Yee, W. C., & Lee, J. (2000). 'Failing' special schools - action planning and recovery from special measures assessments. *Research Papers in Education*, 15(1), 3–24. <https://doi.org/10.1080/026715200362925>.
- Tuytens, M., & Devos, G. (2014). How to activate teachers through teacher evaluation? *School Effectiveness and School Improvement*, 25(4), 509–530.
- Vlaams Ministerie van Onderwijs en Vorming (2016). The Reference Framework for Quality in Education: quality expectations and quality images. Available at https://www.onderwijsinspectie.be/sites/default/files/atoms/files/OK_magazine_eng.pdf. Accessed 12 Nov 2019.
- Vlaamse Overheid (2018). Vlaams onderwijs in cijfers 2017–2018 [Flemish education in figures 2017–2018]. Available at <https://onderwijs.vlaanderen.be/nl/onderwijsstatistieken>. Accessed 12 Nov 2019.
- Weiner, G. (2002). Auditing failure: moral competence and school effectiveness. *British Educational Research Journal*, 28(1), 789–804. <https://doi.org/10.1080/0141192022000019062>.
- Wilcox, B., & Gray, J. (1996). *Inspecting schools: holding schools to account and helping schools to improve*. Buckingham: Open University Press.
- Wurster, S., & Gärtner, H. (2013). Schulen im Umgang mit Schulinspektion und deren Ergebnissen. *Zeitschrift für Pädagogik*, 59(3), 425–445.
- Zuber, J., & Altrichter, H. (2018). The role of teacher characteristics in an educational standards reform. *Educational Assessment, Evaluation and Accountability*, 30(2), 183–205.

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