



The challenges of school inspection practice in demonstrating and improving education quality: stakeholder perceptions in China

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Received: 23 May 2020 / Accepted: 7 May 2022 / Published online: 17 May 2022
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Abstract

This paper presents new evidence that explores the strengths, weaknesses and overall quality of school inspection practice in China. In one city region of Shandong Province, the research examines stakeholder perceptions of inspection purposes, processes and outcomes, as well as the potential to improve inspection practice and compulsory education quality in China. A mixed-methods empirical design was employed to conduct the research involving ten purposively selected junior high schools. Data collection methods included a survey of 364 teachers and headteachers and 13 stakeholder interviews with headteachers, teachers, as well as city and national inspectors, and an educational officer. The survey data were analysed through descriptive analysis and a repeat-measures one-way ANOVA, and the interview data were analysed thematically. The findings supply new empirical evidence regarding the context specificity of school inspection in China and identify pertinent issues regarding school inspection quality. This study overall argues that school inspection criteria and methods in Shandong province and more broadly in China could be improved by taking better account of stakeholder views and school contexts and by putting more stress on providing school-based professional improvement guidance integrated within or alongside inspection processes, instead of just intense bureaucratic monitoring of inspection outcomes.

Keywords School Inspection · Impact · Improvement · Education Quality · China

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1 Introduction

School inspection is a common mechanism in evaluating school quality and in enhancing government control over school quality, via monitoring and accountability, in many developed countries, such as the Netherlands, the UK, and the USA (MacBeath, 2006). School inspection is defined as an evaluative process where external inspectorates make a summative judgement on the school quality based on the evidence collected and interpreted systematically and in the case of some inspection systems recommendations are also provided to support further school improvements (Penzer, 2011). There has been a great deal of research internationally reporting the positive effects of school inspection on improvement of education quality, for example regarding teachers' behaviour, school improvement, and student achievements (Chapman, 2001; Wilcox, 1989). However, the negative impacts of inspection have also been strongly highlighted, such as simply offering 'window dressing' and 'teaching to inspection', although critics are mostly located in the western countries (De Wolf & Janssens, 2007; Nelson & Ehren, 2014; Penninckx et al., 2015). Nevertheless, overall, the impacts of school inspection on education quality are influenced by the nature of the standards employed or implementation or both (Scheerens et al., 2003), given that school quality is evaluated relying on the pre-set standards (Bitan et al., 2014), and the effect of standards on school improvements are determined by the quality of school inspection implementation (Porter, 1994). Moreover, the potential absence of essential support and resources may make it difficult for school inspectorates of low-and-middle-income countries to carry out regular school inspection procedures, such as visiting schools to collect evidence, analysing school documents and publishing inspection performance (Herselman & D, 2002; Macpherson, 2011). Thus, contextual differences are likely to create barriers to generalise and transfer the findings concerning best practice and the outcomes of school inspection in the developed countries directly to the developing world (Ehren et al., 2017). This issue is important because, existing studies on the quality of school inspection implementation is limited in developing countries (Ehren et al., 2017), as well as in China. In the Chinese context, a key reason is that the school inspection system is still developing, and the positive, negative or unintended effects of school inspection on improving education quality have not yet been completely determined (Zheng, 2020). Thus, until this point, studies concerning the Chinese school inspection system were dominated by literature review research which occupies nearly 90% of all relevant studies, with only a few empirical studies pertinent to identifying the impact of school inspection (Li et al., 2016; Ning, 2015) or addressing the practical applicability of school inspection processes and procedures in the context of China (Lee et al., 2008; Sun & Zheng, 2015). Numerous Chinese researchers have preferred to 'borrow' experience of operating school inspection systems from developed countries by comparing the features of their school inspection mechanisms with that of China in order to provide advice for improvements to Chinese educational inspectorates (Rasmussen & Zou, 2014). However, few researchers have sufficiently considered the adaptability of these 'western' experiences to Chinese context or the consequences of uncritical policy transfer (Crossley et al., 2007). In

contrast to previous research, this study seeks to supply new empirical evidence of key stakeholders' perceptions on the importance and suitability of school inspection procedures and outcomes to improve education quality in Shandong province. Context specific evidence of this kind is seen as essential to inform and enhance local school inspection policy and practice as well as more broadly in China, with the overall purpose of seeking to improve education quality in China based on empirical evidence.

2 Literature review

School inspection generally has two main purposes: accountability and improvement, while 'monitoring for compliance may take place alongside evaluation for accountability and improvement' (Slater, 2013, p. 8). However, the precise orientation in inspection systems, towards accountability, improvement or compliance purposes, varies across different country contexts. OECD countries (e.g. the UK and the Netherlands) employ a variety of approaches to promote accountability of school inspection outcomes, including publishing school inspection reports for general public, and giving schools rewards or punishment depending on their good or poor performance (Clark and Ozga, J. , 2011; OECD, 2013). Thus, the inspectorates exert pressure on schools to improve their quality based on the pre-set criteria, and competition between schools in student enrolment is triggered by publishing the league tables and inspection performance (Dederig & Muller, 2011). With regard to improvement purposes, Ehren et al. (2013) have argued that, depending on the type/frequency of school inspection, the standards employed to evaluate education quality, the feedback given by inspectors during school visits, as well as rewards and sanctions; these elements play predominant roles to a greater or lesser extent in school improvement. Moreover, a literature review on the characteristics of school inspection conducted by Klerks (2012) concluded that school inspection facilitates improving school quality through complex interactions between the inspection process characteristics and the school governance, teachers and students, instead of just a reliance on one specific feature of school inspection.

2.1 Accountability

In general, accountability-oriented inspection is closely connected to an explicit administrative hierarchy with a focus on judgement and control (Scheerens et al., 2003), such as a senior/external department to which schools are accountable in the educational system. This means schools as collective entities are accountable to the senior level in the educational system. Numerous inspectorates also publish inspection reports for the public to promote public accountability and school improvement by providing information regarding inspection criteria, areas to be improved, a list of failing schools and summaries of school performance and grading, designed in particular for parents to make school choices where a school

choice policy has been implemented (Ehren et al., 2013). In some cases, failing schools are inspected more frequently to address the weaknesses identified (e.g. in the Netherlands, England, Chile) (OECD, 2013; Van Bruggen, 2010). However, overemphasising school examination performance in school inspection reports potentially sacrifices what is taught in schools, and in England this criticism has resulted in refocusing the school inspection framework on the substance of learning and teaching and the quality of the curriculum instead of spending too much time in preparing students for examinations (Ofsted, 2018, 2019).

In addition, Ehren and colleagues (2013) have argued that merely depending on publishing school inspection reports may be insufficient to promote improvement, and giving continuously failing schools formal sanctions (e.g. forced reconstitution) is also needed to stimulate schools' actions to improve. Previous research has found that schools strove to perform well when they lost or gained something valuable (Elmore & Fuhrman, 2001). Rewards have been recognised in England by Ofsted as an important incentive, as this allows schools to apply for benefits or special status (Ehren et al., 2013). However, notably, schools do not appear to make fundamental changes in their core processes of schooling, even in the face of severe sanctions or perceived attractiveness of the rewards; instead, they tend to attach more importance to improving elements of the schooling process which are directly examined in school inspection (Elmore & Fuhrman, 2001). This is potentially unhelpful in the long term (Nelson & Ehren, 2014), since they may fail to achieve underlying objectives for improving the quality of teaching and learning and broader school improvement, despite the possibility that current inspection weaknesses could be addressed superficially and give the appearance of rapid improvement (Brimblecombe et al., 1996).

In October 1986, the Education Inspectorates Division was established in China as the first government institution with responsibility for school inspection (Yang & Guo, 2005). In 1993, the Education Inspectorates Division was renamed as the Educational Inspection Office and was formally attached to the Ministry of Education (MOE) to assist in supervision, inspection, evaluation and instruction for education quality of local schools. As the highest educational organisation administered by the State Council (SC), overall, the MOE is responsible for making educational policies, supplying curriculum outlines and running university entrance examinations (Zhou, 2017). In June 1999, a new statute was issued by MOE, guaranteeing the implementation and supervision of quality-oriented education (MOE, 2015) and advocating balanced educational quality development across urban and rural regions and schools (MOE, 2012). Delivering these policies became an important responsibility of educational inspectorates, particularly at the provincial level where policy is typically implemented via a hierarchy of sub-administrative organisations at city, district and county levels. However, in China, school inspection rests on bureaucratic authority which does not originate from an independent educational inspectorate but from provincial in-house education department's administrative power (Yang, 2007). The provincial educational inspectorates are not external but a division in the education department that have no independent financial and personnel power, and this essentially prohibits the educational inspectorates' from effectively exercising an independent inspectorate role (Zhang, 2011). To

address this lack of independence, the SC took over the power to administer the national educational inspectorates from the MOE (SC, 2012), indicating that the educational inspectorates could perform administrative power independently and the Inspectorate was legally equal to other educational administrative departments (Song & Yue, 2013). However, in practice, provincial educational inspectorates still depend on administrative power delegated by MOE educational departments to perform their functions, largely because of the educational inspectorates' funding dependent relationship with MOE educational administrative departments. This gives rise to an awkward situation where local authorities inspect their own schools, which significantly weakens educational inspectorates' opportunity to support external accountability via independent evaluations of local authorities and schools (Han, 2011). Moreover, it has not been specified if the educational inspectorates possess the power to punish or reward schools in addition to proposing suggestions for school improvement to the senior authorities. This has resulted in little impact and limited effective utilisation of school inspection results (Han, 2011; Yang, 2007). Consequently, even if the local governments or subordinates of government disregard educational law and regulations, the educational inspectorates are unable to investigate and give rewards or sanctions due to the lack of necessary administrative power (Song & Yue, 2013). This situation is compounded as school inspection reports are not public information so there is also no mechanism of public accountability that may stimulate school improvement efforts. Researchers have argued; the power of investigation, examination and public accountability are inter-related and essential to strengthen Chinese educational inspectorates' authority and impact (Huang, 2009; Zhang, 2011).

2.2 Compliance with the legal regulations

Overall, compliance with the legal regulations, particularly in urging schools to reach the minimum standard of school education quality (De Wolf & Janssens, 2007), is the most commonly recognised area in the school inspection frameworks of OECD countries (OECD, 2011). Considering inspection standards' legal nature, these standards are designed to motivate and support schools to reach the inspectors' expectation of what constitutes a good school and avoid receiving sanctions for poor or below standard performance (Ehren et al., 2013). Inspectors typically evaluate school classroom teaching quality against pre-set standards through direct observation. However, additional evidence from school policy documents and other information is still needed to understand school characteristics and performance comprehensively, especially since judgements made on the basis of limited classroom observations may be insufficient. Thus, discussions with key stakeholders (e.g. individual/group interview) might provide 'greater insight into the overall complexity of matters by observing schools from several perspectives' (Eurydice, 2004, p. 3) to verify whether a school has reached the inspection standards or not. Stakeholder questionnaires that can be completed efficiently and generate evidence in time are also often employed (Wilcox, 1989).

However, it is notable that some researchers have argued that overemphasising compliance with inspection standards might induce undesirable effects, resulting from school and teachers' strategic behaviour in response to the school inspection criteria, regardless of whether these may comprise flawed measures and rigid standards (Ehren et al., 2015; Perryman, 2006). Strategic behaviour refers to performativity (window dressing), which in practice means that schools may focus overwhelmingly on inspection criteria in a narrow, superficial or fraudulent way, so as to receive more positive results (De Wolf & Janssens, 2007). For example, fraud was found in some Dutch schools to demonstrate the minimum number of teaching hours required by inspection standards; school teaching time was adjusted by adding students' playing time (Ehren, 2006). The adoption of intended strategic behaviour, such as paying more attention to elements that are measured directly by external inspectorates, are likely to draw more attention from schools at the expense of long-term and fundamental education goals, which could bring about unintended consequences on inspection quality (Nelson & Ehren, 2014). As revealed by Rosenthal (2004), the decrease of pupils' performance in England in the year of the inspection visits may be attributed to extensive preparation for school visits which distract teachers from teaching and learning. Moreover, previous research in middle- and low-income countries found that paying particular attention to examining schools' compliance with regulations during school inspections took time away from schools to concentrate on improving student performance (Chen, 2011; Darvas & Balwanz., 2014; Uwazi., 2009).

Educational inspectorates in China are regarded as authorities which take charge of monitoring, inspecting, evaluating school quality and seeking improvements by providing directive guidance based on scientific state-issued educational law, regulation and policy (Han, 2011; Nwaokugha & Danladi, 2016). Shandong provincial inspectorates particularly emphasise the requirement for schools to operate based on legal regulations so as to guarantee education quality, and this emphasis has been spoken highly by a number of educators from other provinces in China (Yongjina, 2009). Lee et al. (2008)'s research revealed that school inspectors in Shanghai heavily relied on predetermined criteria and regulations to ensure schools' compliance regardless of school practitioners' beliefs, values and preferences. More recently, Ning (2015) found that 55% of headteachers from China's Hubei province thought school inspectors' feedback was more helpful with improvements to school infrastructure than to teaching and learning because inspectors paid more attention to inspecting school documents to check obedience to legal regulations rather than to on-site observation of classroom teaching and evaluation of the quality of teaching and learning. This suggests improvement is needed as historically, supervision and a greater focus on compliance with education laws, rather than accountability or improvement, has been prioritised in Chinese school inspections (Thomas, 2020). Hence, the implementation of recent MOE initiatives (MOE, 2011) to reform and improve school inspection processes and outcomes and investigating these initiatives is a key aim of this study.

2.3 Improvement

Apart from accountability and compliance purposes, school inspection systems are also orientated, to a greater or lesser extent, to school improvement, seeking to promote school development and enforce standards in relation to improvement (Landwehr, 2011). However, school improvement is unlikely to be achieved without support for change provided by self-evaluation, as a part of the school inspection process (Whitby, 2010) and could be employed to locate potentially weak areas to facilitate school improvement (Ehren et al., 2013). In some country contexts such as the UK, low-performing schools are also visited more frequently and provided with additional inspection resources, advice and support (Ehren et al., 2015; Ryan et al., 2013), for example advice on school governor training in order to improve and optimise schools' governance processes (Dederling & Muller, 2011). In contrast, high-performing schools are typically visited less frequently, thereby relying on the schools' own self-evaluations to maintain good practices in accordance with inspection standards (Ehren et al., 2015). However, this approach can be critiqued as there may be an unintended risk that schools are overly positive in their self-evaluation scores in order to accommodate inspection standards but ignore the underlying goals of school improvement (Nelson & Ehren, 2014; SICI, 2005). Thus, it is essential for external inspectors to prevent school self-evaluation from causing self-delusion (SICI, 2005). Additionally, the frequency of school inspection has been deemed as an important indicator to demonstrate the quality of school inspection, given that there may be few incentives serving to improve the effects and functioning of the school inspection system and evaluate the inspectors' work directly (Ehren et al., 2017; Uwazi., 2009). Thus, it is necessary to establish a systematic evaluation mechanism to ensure the quality of school inspection and inspectors' work.

At the end of school visits, inspectors usually leave headteachers or teachers feedback concerning guidance for schools to improve (Ehren et al., 2013) and the quality of feedback as well as schools' agreement with the feedback has been identified as critical in influencing school improvement (Ehren & Visscher, 2008; Matthews & Sammons, 2005; McCrone et al., 2009). Considering the difficulty for many schools to take appropriate actions in response to inspection feedback (Altrichter, 2010), previous research has demonstrated that feedback with detailed descriptions around school weakness and advice which fits with the school culture will better improve school quality (Ouston et al., 1997; Schildkamp & Visscher, 2010). Thus, feedback should be designed carefully with pertinent and constructive content, clear format and accommodate local contexts in order that teachers and schools could build up their capacity for making use of feedback to improve school quality (Ehren et al., 2015).

In the China context, arguably there is a lack of professional guidance regarding improving internal schooling processes and outcomes, and only when this is achieved can the educational inspectorates fulfil their stated obligations and reflect the underlying values of school inspection (Huang, 2009; Zhang, 2011). Thus, the purposes and processes of the school inspection system need to be further researched in China in the light of international evidence, given the potential benefits of best practices in comprehensively examining schooling processes and guiding schools

to develop in the right way (Han, 2009; Lee, 2010). Furthermore, strong bureaucratic accountability and a lack of independence in the current Chinese centralised inspection system, along with weak public accountability is problematic as teachers have adapted themselves to the directives of the defined inspection system and follow them mechanically (Lai & Lo, 2007). Given numerous studies argue Chinese school inspection should pay more attention to the purpose of improvement (Lee et al., 2008; Ning, 2015; Yang, 2007; Yang & Lv, 2015) and there is limited empirical research on the quality of the Chinese school inspection system (Li et al., 2016), more context-based research is needed to identify the main role that school inspectorates are playing in relation to improving education quality, especially given recent government reforms (MOE, 2011). This study seeks to address this gap by providing new evidence on local stakeholder perspectives of inspection policies and practices in one city region, as well as recommendations to improve inspection policy at the national level. In this study, Shandong province was selected as a relevant and interesting location to conduct the fieldwork because its educational investment level in comparison to other provinces (15th) (MOE & State Satisfic Bureau, 2018) is somewhat lower than might be expected from its higher provincial rank (third) in GDP (Gross Domestic Product) (NP, 2016). The selection of the specific city region (Q) for fieldwork was largely purposively sampled based on its highest rank in equity of education quality within Shandong province and nationwide (Yang et al., 2016), and its rich experience of innovative educational reforms. As the only national-level experimental area for comprehensive education reform in Shandong province, the positive experience of educational reform in Q city has been applied extensively to other provinces by the MOE (Yu et al., 2018). Thus, perspectives of participants from Q city are in a good position to reflect the potential for best practice in school inspection system of Shandong province and how this can contribute to a high-quality educational system.

2.4 Educational inspection frameworks in China

On October 12, 2011, the Chinese national educational inspection office issued *A framework of inspection and evaluation methods for quality education in primary and secondary schools* ('national inspection framework' for short) in order to improve guidance on the consistency and quality of the inspection process across provinces in China, enhance overall educational quality of primary and secondary schools, improve school supervision to comply with laws and regulations and ultimately promote all-round development of students and schools through these improvements (MOE, 2011). The purposes of improvement and accountability along with compliance with legal regulations were highlighted in the national inspection framework. The 'national inspection framework' essentially provides a guideline for each provincial inspectorate's system to formulate their own plans of carrying out school inspection based on different provincial contexts. However, to obtain an overall understanding of school inspection practices and their impacts on education quality within different provincial contexts in China, the school inspection frameworks developed by four provincial inspectorates located in different regions in China have

been reviewed to lay out the major characteristics of the school inspection at the provincial level. Thus, a range of provincial contexts, including Shandong province as well as two eastern-developed provinces (JU and JN) and two western-underdeveloped provinces (SI and GU), was selected for review based on their regional locations and contrasting (high/low) educational finance data (MOE & State Statistic Bureau, 2018), which provides an estimate of provincial economic strength and education quality (Wang et al., 2013). Interestingly, overall, it was found that inspection procedures adopted by the five provinces were similar and are approximately consistent despite some minor discrepancies underpinned by the particular provincial context. For example, with respect to the methods employed in the practice of school inspection, use of inspection evidence (school self-evaluation reports, school policy documents, surveys and interviews with students, teachers, and parents, classroom observations), providing schools with feedback after inspection, rewards and punishment were approaches typically utilised by all five provinces.

Given school inspection frameworks and procedures are relatively new in China, as well as the lack of empirical evidence addressing the quality of school inspection, this study seeks to explore stakeholder perspectives on the purposes of school inspection, the quality of approaches and procedures used and recommendations for promoting best practice and improvement in one city region of Shandong province China. This kind of evidence is particularly important as Ehren and colleagues argue it is necessary to involve headteachers, teachers and higher education providers in the design of inspection frameworks to evaluate schools, since they could affect the process of school development (Ehren et al., 2017). Hence, participants' perceptions of school inspection were examined via a survey and interviews to provide new evidence regarding the feasibility and applicability of the inspection approaches recently implemented, and the potential strengths and weaknesses which might affect the quality of school inspection and education. It is anticipated the evidence yielded from this research will inform potential improvements of the national school inspection system in China. The following three research questions were specifically addressed.

1. What are stakeholder perceptions on the purpose of school inspection?
2. What are stakeholder perceptions on the importance of different methods and procedures used in school inspection to demonstrate and improve education quality?
3. What are stakeholder perceptions on the strengths and weaknesses of school inspection to monitor educational quality and promote best practice strategies for improvement?

3 Research design

This study employed an explanatory sequential mixed-methods design giving equal weight to quantitative and qualitative strands. A teacher survey was conducted in ten junior high schools from one city region in Shandong province to address RQ1–2. Following this, 13 interviews were also conducted with staff in a subset of three

schools as well as with other stakeholders. The qualitative analysis of interview data provided rich and in-depth context-based evidence to address RQ1–3, thereby complementing and extending evidence from the survey data. This is essentially an exploratory study with a relatively small sample; nevertheless, the study findings seek to provide new evidence of stakeholder perspectives that will illuminate and raise pertinent questions regarding current school inspection processes and outcomes in China.

3.1 Survey and interview instrument design

The content of the survey items was guided by a review of previous literature which incorporates the full range of potential school inspection purposes, approach/procedures and its consequences identified across five provincial contexts in China and in the international contexts, as summarised in Table 1.

Specifically, survey items on the perceived agreement regarding a range of school inspection purposes were included as well as items concerning the importance of utilising different inspection procedures (such as target setting, school self-evaluation, classroom observation, feedback, and sanctions and rewards) to demonstrate and promote education quality. Furthermore, additional items were included to obtain stakeholder perspectives on the potential impacts and consequences of school inspections. For each survey item, five-point Likert-type scales were used to measure the range of participants' views

Table 1 Key concepts and issues: school inspection purposes, procedures and potential consequences

School inspection purpose	Accountability Improvement Compliance with legal regulations
School inspection approach/procedure	Document inspection School self-evaluation Feedback Standards/threshold Frequency Observation Survey/interviews Publication of school performance data Comparison of school performance Rewards/sanctions
Consequences of school inspection	Positive consequences <ul style="list-style-type: none"> ● Promote school improvement ● Understand school characteristics comprehensively Unintended consequences <ul style="list-style-type: none"> ● Fraud ● Gaming ● Self-deception ● Window dressing ● Misrepresentation ● Affect quality of school inspection ● Intend to satisfy the preference of inspectorates

on agreement/disagreement with a statement or importance in relation to promoting education quality. The five response categories on each item were assigned a numerical value in the statistical analysis (e.g. ‘Strongly agree’/ ‘Most important’=5, ‘Strongly disagree’/ ‘Not important at all’=1). A pilot survey was conducted involving eight participants from outside the main sample of respondents, and the piloting feedback was used to adjust and improve some survey items to better reflect the local context prior to conducting the main survey. Based on participants’ feedback, it was unnecessary to change the questionnaire in structural and technical aspects.

A qualitative data collection instrument was also developed based on the research questions and the results of statistical analysis of the survey data. The interview questions sought to gather participants views on the key inspection procedures and approaches identified in the literature review and their impacts on improving education quality, as well as the strengths and weaknesses of the current school inspection practice in Shandong province in evaluating education quality and strategies for improvement. For example, interview questions included, what specific procedures are included in inspection visits? Among those procedures, which procedures do you think are useful to improve education quality? Why? Can any strengths and weaknesses be identified in current school inspection system? Can you give some examples?

3.2 Sample

In order to purposefully sample a range of junior high schools that represent the variation across all ten districts administered by Q city, an internal ranking of schools’ performance in the entrance exam for senior high school was used to create three school groupings (high-performing, ordinary and low-performing). Convenience sampling was then used to identify and select one volunteer school from each of ten districts subordinated within the city across urban and rural areas, ensuring a balance of high-performing (three), ordinary (four) and low-performing (three) schools overall. All headteachers, teachers and administrative staff from the selected ten schools were invited to complete the survey with 364 participants (out of a total of 550) responding to the questionnaires, achieving a response rate of 66%. In addition, a total 13 interviewees were convenience sampled, including three headteachers and six teachers from a high-performing urban school (HUS2), an ordinary rural school (ORS1) and a low-performing urban school (LUS9), as well as two Q city inspectors, one national school inspector and one Q city education officer. Interviewees were selected as volunteers and invited to attend an individual interview where their perspectives were gathered on the strengths and weaknesses of local school inspection, the importance of inspection procedures to demonstrate and promote education quality and ways to improve the existing Q city inspection system.

3.3 Data analysis

Descriptive analysis was conducted to calculate the mean and standard deviation of each survey item (Creswell, 2014) so as to measure the degree of stakeholder agreement on the relevance and importance of the items, aiming to answer RQ1–2. The

percentage of respondents choosing the most important/very important and strongly agree/agree categories is also presented to better understand the patterns in the data. Given that participants' views on most of the question items are positive overall, and to aid description of exploratory patterns in the data, a repeat-measures one-way ANOVA and a paired samples *t*-test were also applied to further test the statistical significance of whether certain items were rated higher or lower overall than others (note that the ANOVA was conducted using the full five-point scales). As a result, a repeat-measures one-way ANOVA rejected the hypothesis of no differences in some item ratings, and pairwise significant differences ($p < 0.05$) detected by Bonferroni post hoc tests are indicated in Table 2.

Thematic analysis as outlined by Braun and Clark (2006) was employed to analyse the qualitative interview data to address RQ1–3. Deductive coding was first conducted based on inspection concepts drawn from previous research, integrating international school inspection frameworks and processes reported by OECD and European countries, as well as national and provincial school inspection frameworks from the Chinese context (as summarised in Table 1). Next, inductive coding was utilised when the existing priori codes were too limited to describe new phenomena identified in the transcripts (Drisko & Maschi, 2015). All the datasets were coded manually. After revising and refining, more sub-themes were generated from both data and literature.

The survey and interview results of participants' different views on the purpose and importance of school inspection procedures to promote education quality, school inspection consequences and strategies for improvement of school inspection system in Shandong province are presented below.

4 Findings

4.1 RQ1: What are stakeholder perceptions on the purpose of school inspection?

Two survey items on inspection purpose, 'to promote schools to comply with legal regulations' (83.24%) and 'to promote school development' (82.4%) were rated highest by participants. In contrast, 'to promote teacher/school accountability' (74.03%) was rated lowest. This indicates that stakeholders viewed the key purpose of school inspection to be around compliance and improvement functions.

This finding is consistently supported by more than half of interviewees (7 out of 13), who agreed that the most important school inspection purposes were supervising schools to conform to educational laws and regulations and to help the school develop and improve education quality. For example, one city inspector reported, '*what the inspectorates can only do is to report the issues of the school to the senior educational departments at each level, who then could supervise or suggest schools address these issues*' (CI1). A national educational inspector went further and explained that in essence, the lack of executive powers significantly weakens the authority of the educational inspectorates, and limits the opportunity to promote external accountability. She noted that '*unlike China, the Ofsted in the UK owns independent personnel and financial administration power so that inspectorates in*

Table 2 Participants' views on purposes, procedures and consequences of school inspection

Items	Percentage of strongly agree/agree	M	SD
To what extent do you agree or disagree with the following purposes of school inspection, in relation to promoting education quality?			
<i>F = 9.199, p = 0.003, n = 363</i>			
**20.5 To promote schools to comply with legal regulations	83.24%	4.12	0.832
**20.2 To promote school development	82.4%	4.11	0.807
20.1 To improve education quality	80.72%	4.03	0.842
20.4 To promote teachers' professional development	80.5%	4.07	0.836
20.3 To promote students' overall development	80.2%	4.07	0.856
20.6 To promote educational equity	77.93%	4.05	0.858
20.9 To improve parental satisfaction	75.31%	4.00	0.836
20.8 To improve students' academic outcomes	75.98%	3.99	0.886
*20.7 To promote teacher/school accountability	74.03%	3.92	0.876
How important are the following inspection methods and procedures, in relation to promoting education quality?			
<i>F = 11.458, p = 0.000, n = 358</i>			
**21.5 Publishing school inspection performance data for the public	79.61%	4.19	0.857
**21.2 Using survey of pupils' satisfaction with schooling and performance	78.77%	4.18	0.851
**21.3 Requirement for internal targets to be set by the school	78.21%	4.17	0.850
21.1 Using surveys of parents' satisfaction with schooling and performance	75.7%	4.11	0.929
21.4 Requirement for externally set performance indicators and criteria	75%	4.1	0.893
21.6 Comparison of school performance with schools of similar socioeconomic characteristics	74.73%	4.1	0.941
21.12 Using rewards and sanctions for poor or good school performance with regard to the inspection criteria	72.81%	4.08	0.935
21.8 Written feedback is provided by external inspectors regarding school performance in satisfying inspection criteria	74.3%	4.04	0.945
21.11 Requirement for school self-evaluation report to be provided before formal school visit	73.63%	4.03	1.002
21.7 Class observation conducted by external inspectors to judge whether classroom teaching satisfies the inspection criteria	71.15%	4.02	0.967

Table 2 (continued)

Items	Percentage of strongly agree/agree	M	SD
21.9 Verbal feedback is provided by external inspectors regarding school performance in satisfying inspection criteria	74.31%	4.02	0.933
*21.10 The frequency of school inspection visits is determined by school inspection performance	68.72%	3.91	1.069
To what extent do you agree or disagree with the following statements about the consequences of different elements of school inspection, in relation to promoting education quality?	Percentage of strongly agree/agree	M	SD
Use of internal school targets	$F = 18.800, p = 0.000, n = 358$		
22.5 A focus on quantifiable targets distorts the purposes of education	69.27%	3.96	0.932
22.3 School targets give an accurate indication of the school's efforts to improve performance	68.44%	3.93	0.923
22.2 Setting targets leads to school improvement	68.72%	3.91	0.941
22.1 Current performance indicators are appropriate for evaluating the quality of education	65.92%	3.86	0.922
*22.4 Target setting is not an important issue for schools	54.47%	3.6	1.061
Use of external school inspection	$F = 13.512, p = 0.000, n = 358$		
**23.1 School inspection is necessary to monitor the range and extent of education quality	66.48%	3.86	0.979
**23.2 School inspection improves the quality of classroom teaching	63.97%	3.81	1.023
23.4 During inspection visits, teachers in your school were prepared and better structured the content of teaching to reach inspection standards	61.17%	3.70	1.039
23.3 School inspection results in school staff fabricating documents used for school inspection in order to reach inspection standards	56.42%	3.63	1.082
*23.5 School inspection requires teachers and head teachers to spend too much time in preparation for a school visit, and distracts them from teaching and learning	53.91%	3.51	1.156
Use of internal school self-evaluation	$F = 39.553, p = 0.000, n = 358$		
24.7 Internal self-evaluation is carried out properly in this school in line with published criteria	70.11%	3.92	0.864
24.1 Internal self-evaluation is beneficial for improving teaching	71.5%	3.90	0.923
24.4 Internal self-evaluation is beneficial for improving students' experience	69.27%	3.90	0.907
24.6 Internal self-evaluation is beneficial for improving overall school performance	67.32%	3.86	0.925
24.5 Internal self-evaluation is beneficial for improving students' academic outcomes	67.59%	3.85	0.952
*24.3 Internal self-evaluation is just a bureaucratic exercise	56.98%	3.59	1.019

Table 2 (continued)

Items	Percentage of strongly agree/agree	M	SD
*24.2 There is no need for formal internal self-evaluation by schools because teachers are aware of what is happening in the class or the school	48.6%	3.35	1.089
Use of feedback			
**25.4 The school in the main will act on the feedback received from the inspectors	$F = 9.007, p = 0.000, n = 358$ 70.39%	3.93	0.868
25.1 The feedback provided to teachers during the last inspection visit was insightful to improve classroom teaching	66.76%	3.83	0.877
25.5 Inspection generated useful feedback for teachers themselves to improve their teaching practice	65.36%	3.83	0.924
25.3 Inspection feedback identified additional weaknesses that the school had not identified	65.09%	3.8	0.884
25.2 Inspection feedback identified additional strengths that the school had not identified	64.52%	3.8	0.918
Use of standards			
**27.2 Inspection standards improve self-evaluation processes of the school	$F = 99.259, p = 0.000, n = 358$ 70.11%	3.90	0.780
**27.1 Inspection standards improve evaluation and supervision of teachers	71.23%	3.89	0.772
27.6 Preparation for the inspection visit leads to improvement in school leadership, management, and organisation	66.48%	3.83	0.822
27.5 Preparation for the inspection visit leads to improvement in the teaching and learning	64.25%	3.79	0.851
*27.4 Inspection standards result in narrowing curriculum and instruction strategies	42.46%	3.20	1.075
*27.3 Teachers are discouraged from experimenting with new teaching methods that do not align with the scoring rubric of the Inspectorate	41.62%	3.17	1.122
Use of rewards/sanctions			
**28.1 If the school where you were working in were rewarded by Inspectorate, you are more likely to be encouraged to work hard	$t = 93.433/860428, df = 357, p = 0.000$ 75.7%	3.97	0.804
*28.2 If the school where you were working in got sanctions from Inspectorate, you are more likely to actively focus on resolving problems raised by Inspectors	72.07%	3.89	0.851

*+ Significantly higher rated than other items; * – significantly lower rated than other items

the UK can enhance external accountability by performing executive power independently, such as punishing low-performing schools. However, Chinese inspectorates are not likely to monitor schools and the educational quality effectively without independent executive power. (NI).

Also, in the view of the two city inspectors, given external accountability function of school inspections in China is weak so this is replaced by a much stronger emphasis on internal accountability. Additionally, school inspection performance information is not publicly available in China, which also weakens the leverage of school inspection to promote improvement via public accountability. As noted by a vice headteacher from HUS2, *'compared with western countries, school inspection system in China is less effective in promoting school improvement because we cannot utilise inspection results effectively to improve education quality'*. Nevertheless, considering the potential difficulties in implementation, a city inspector explained why publication of school inspection performance was not prioritised in China by stating that *'the importance of school inspection has not been recognised by parents, and its impacts on students and schools are far weaker than that of entrance exam performance of the senior high school'* (CII).

Furthermore, another city inspector noted: *'even if parents are aware of the importance of school inspection, it is still difficult for them to interpret the inspection result correctly. If parents lack the abilities to interpret the inspection data, this might damage schools' reputation, which could have negative impacts on school development'* (CI2). Thus, according to interviewees, if the inspection performance was published in China, it might anyway fail to exert public pressure on schools to score better on inspection indicators. A national inspector also added that *'delegating real executive power to school inspectorates might enhance the effects of school inspection in that school inspectorates' authority could be strengthened so that schools may attach more importance to school inspection findings and devote more efforts to improving education quality'* (NI). Therefore, according to the interviewees, strengthening the external accountability function of school inspectorates in China is needed for schools and the public to pay more attention to the role of school inspection in the improvement of education quality. However, the feasibility of publishing school inspection reports in the current system is limited due to perceived lack of independence, and the potential benefits of public accountability for education quality still remains to be further examined in the context of China.

4.2 RQ2: What are stakeholder perceptions on the importance of different methods and procedures used in school inspection in order to demonstrate and improve education quality?

With regards to preferred methods and procedures used in school inspection indicated by the survey responses in relation to demonstrating and improving education quality, publication of school performance data (80%), pupils' satisfaction survey (79%) and internal targets set by the school (78%) were rated significantly higher than other item such as the frequency of school inspection visits is determined by school inspection performance (69%). A national inspector

also recognised the importance of the publication of school performance data in improving education quality by giving an example, *‘the education quality of British schools was much improved after implementing strict school inspection system by publicising and ranking all schools’ performances*. (NI-S) Although the majority of participants seem to agree on the importance of publicising inspection performance in demonstrating and improving education quality, its potential risks and suitability in the context of China (shown in “Sect. 4.1”) also needs to be considered.

As an essential part of the documents for inspection, targets set by the school to regulate internal school goals to be achieved within a year. Hence, inspectors could check whether the school has completed the scheduled tasks and reached the required standards or not. Thus, according to a city inspector (CI1), *‘the targets set by the school could reflect education quality’*. In other words, the more the set targets are actually met, the stronger the capacity a school may possess. Although almost 80% of participants think surveying pupil satisfaction with schooling and performance is most important to demonstrate education quality. In contrast, a city inspector (CI2) pointed out that some of the results of pupils’ survey were not reliable, in that *‘students who participated in a panel-interview might have already been taught by school teachers in advance about how to answer the interview questions’*. That is because *‘at present, the group interview questions were used repetitively in different schools so that after one school was inspected, other schools might have known the interview questions and have time to bring together all participants to prepare for these questions before the formal school inspection’*. (CI1) From interviewees’ comments, the survey for school inspection should be better arranged to avoid schools employing any strategic behaviour, which cannot reflect the real situation of the school and harm the quality of the inspection.

Regarding, the frequency of school visits depending on school inspection performance, this procedure was regarded as the least important in promoting education quality. Moreover, some interviewees endorsed this suggesting the frequency of school visits should be based more realistically on the needs of schools. As complained by a teacher from a low-performing urban school (LUS9), *‘considering the poor student achievement of our school, we need to improve student performance in the examination. However, frequent school visits cannot help us solve this issue; instead, whenever our school was inspected, the teachers would be busy with dealing with school inspection, which could mess up our normal work schedule’* (LT1). Moreover, a teacher from an ordinary rural school (ORS1) added, *‘I admit that school visits are essential. However, inspectors’ feedback is usually concerning school’s compliance with legal regulations, but we need more practical advice on improving teaching and learning’* (OT1). From these interviewees’ comments, for the low-performing school, too frequent school visits may not necessarily bring about improvement and can be disruptive; and the ordinary school need a school visit that focuses more on the improvement of teaching and learning than on bureaucratic examination. Substantially, both of them advocate that frequency of school inspection visits should be determined by school’s actual needs in reality instead of their performance.

4.3 RQ3: What are stakeholder perceptions on the strengths and weaknesses of current processes of school inspection to monitor educational quality and the strategies for improvement?

4.3.1 Evidence of strengths and weaknesses is mixed

Overall and some specific aspects of the processes of school inspection are seen by participants as having a combination of both strengths and weaknesses, from both the interview and survey results, in terms of the positive/negative impacts or consequences for promoting educational quality. Typically, there was more agreement by participants with the positive rather than negative statements regarding the consequences of external school inspection. However, from the survey, only around two-thirds of participants (64–66%) agreed on the necessity and positive roles of external school inspection in monitoring education quality and improving classroom teaching. Nevertheless, it is important to note a sizable minority (34–36%) disagree with this statement, suggesting a somewhat negative view of the overall inspection processes and that improvements may be needed.

a. School self-evaluation

Just over two-thirds of participants (68–70%) agreed that school self-evaluation (required by Q city inspection system) is carried out properly and is beneficial for improving teaching, student experience and academic outcomes and overall school performance. However, again a sizable minority (30–32%) disagreed with these self-evaluation benefits and around half (49–57%) see self-evaluation as unnecessary or just a bureaucratic exercise. To some extent, these findings are likely to reflect the issue of school teachers' fraudulent behaviours of fabricating documents for school inspection, which is also recognised by over half of survey participants (56%). The results suggest a mixed picture of strengths and weaknesses regarding school self-evaluation. While the majority appear to support the beneficial impact of self-evaluation, there is also evidence to suggest that some teachers see this kind of activity as inaccurate or otherwise irrelevant, superficial and not supporting positive outcomes.

As an essential part of the documents for school inspection, school self-evaluation reports are required to be submitted to city inspectorates before formal school inspection, and are considered important to influence the overall inspection outcome. However, as reported by interviewees, some schools fabricate self-evaluation and other school documents, when it was difficult for the school to satisfy the requirements of inspection standards, especially for those disadvantaged schools. According to a teacher from a lower performing urban school (LUS9), *'we cannot finish the demanded curriculum plan, so to cope with school inspection, teachers usually prepare two versions of the curriculum schedule. One is for daily classroom teaching, and the other is for school inspections' (LT1)*. The headteacher from the same school (LUS9) also reported, *'...we fill in the self-evaluation form according to the requirements. If our school is planning*

to attend some awarding activities, the self-evaluation scores should be no less than 100 points. Thus, schools need to fabricate some materials to reach the required scores to compete for the award even if the school did not carry on this work' (LH). This kind of strategic behaviour by schools suggests a clear intention to cover possible weaknesses by only reflecting the positive aspects of the schooling process in the school's self-evaluation report. However, these fraudulent behaviors prevent inspectors from collecting accurate data, which is likely to reduce inspection quality and lead to inaccurate inspectors' judgements regarding school quality. Meanwhile, schools drawing up false self-evaluation reports to help cover the existing weaknesses cannot improve school quality in practice.

b. Internal school targets

Around two-thirds of participants (66–69%) agreed that schools setting their own internal targets (required by Q city inspection system) is accurate and leads to improvement and that current indicators are appropriate. However, almost 70% also agreed that quantifiable targets distort the purposes of education and over 50% agreed that target setting is not an important issue for schools. This suggests a mixed picture of strengths and weaknesses regarding school target setting. While the majority appear to support the beneficial impact of school targets, many participants also recognise the potential for distorting the purpose of education and irrelevance for some schools.

Internal school targets regulate which indicators and the number of indicators that need to be achieved by schools via the inspection process. However, in contrast to the survey findings, interviewees from all three schools saw it as a strength that school inspection involves schools' setting internal targets based around the needs of the specific school context. A vice headteacher from high-performing urban school (HUS2) explained that '*given schools' varied contexts and characteristics, it is not practical to require all the schools to reach the same targets*' (HH). Similarly, a headteacher from an ordinary rural school (ORS1) added that '*schools set school targets depending on schools' capacity, which could reflect schools' individual characteristics. For example, urban schools are required to reach the goal that more than 50% of junior students are enrolled in the senior high schools, but for rural schools, 30% is enough*' (OH). Moreover, a headteacher from a low-performing urban school (LUS9) viewed that '*it is more important to compare the present school performance with the previous performance, considering schools' are in different stages/periods of development*' (LH). This means low-performing schools can set different school targets from high-performing schools based on their school capacities, as the targets that are appropriate to promote high-performing schools to develop further might exert too much pressure on low-performing schools. Therefore, interviewees recognised that by facilitating adjustments allowing for contextual issues, both high-performing and low-performing schools are enabled to make progress on their own track of development, recognising that the existing gap in education quality

between schools cannot be addressed within a short period. Even so, there were still complaints that overemphasising quantitative targets distort the purpose of education, especially for disadvantaged schools. As noted by a teacher from a low-performing urban school (LUS9), *'as students' academic achievement is still playing the dominant role in evaluating school quality, increasing the enrolment rate for the senior high school is vital for school's future development. In this case, students are facing high pressure of learning having no time to participate in extra-curriculum activities, which does harm on students' well-being and all-round development'* (LT2). These results suggest that school target setting as a whole is still important to demonstrate and improve education quality, but the over-reliance on quantifiable target setting, especially for disadvantaged schools should be avoided.

iii. School inspection standards

The survey participants were most likely to agree that school inspection standards improve both supervision and evaluation of teachers (71%) and the process of self-evaluation (70%). However, a large minority of participants also reported that inspection standards discourage teachers from experimenting with new teaching methods (41%) and narrow the curriculum and instruction strategies (42%). This suggests a mixed picture of strengths and weaknesses regarding inspection standards. Although the majority appear to support the positive impact of inspection standards, many participants also reveal some weaknesses of inspection standards for some schools.

Standards point at the 'levels of achievement or expectation against which people and objects can be assessed' (Straughan & Wrigley, 1980, p. 12). However, almost half of the interviewees (6 out of 13) complain that inspection standards are highly prescriptive and inflexible in regulating all the schooling processes. For example, a city inspector noted: *'students are not allowed to stay in the school for more than 6 h. However, school is a right place for fun, since students can participate in various extra-curriculum activities in the schoolyard. Why should we force students to leave school so early?'* (CI2) Although inspection standards should be specific and clear enough for schools to observe, these standards could be implemented more flexibly in the practice of school inspection so as to better satisfy the actual needs of schools, students and teachers. This issue is highlighted by a headteacher from a lower performing school (LUS9) who reported, *'current school inspection standards are quite specific and cumbersome in that there are various requirements about norms of drafting teaching plans, classroom observation, multimedia teaching technique, and so on. These requirements to some extent limit teachers' autonomy of applying diverse teaching pedagogies in different teaching contexts to accommodate students' diverse needs'* (LH). A teacher (LT1) from the same school (LUS9) explained further by giving an example, *'usually we cannot finish the required curriculum hours within one academic term as required by the inspectorates. Considering there are more disadvantaged students in our school compared to other schools, extra class hours are needed to finish the required curriculum plan. However, running additional classes is not allowed by the inspectorates'*. Highly prescriptive standards are intended to

comprehensively cover all aspects of education quality, but they might also discourage teachers from innovation and experimenting with teaching strategies to take better account of student needs in different teaching contexts for fear that the new method might not conform to requirements for classroom teaching set by the inspectorates.

d. Inspection feedback

The survey results indicate that one item, on schools' action on the feedback from inspectors, was significantly higher rated ($p < 0.01$) by participants than the rest of the statements regarding inspection feedback. This likely reflects schools' respect for school inspections' role as internal accountability. There were around two-thirds participants (65–67%) recognising the strengths of feedback regarding improving classroom teaching and teachers' teaching practice and identifying additional strengths and weaknesses that the school had not identified, suggesting that most participants were satisfied with the quality of feedback obtained during the last school inspection. However, nevertheless, a sizable minority did not agree on the beneficial impacts of feedback indicated in the survey results and a few interviewees also reported weaknesses in inspection feedback for some schools, as well as strengths.

Most teachers and headteachers (eight in nine) from three schools supported the overall benefit of inspectors' feedback in identifying the weaknesses in school management and classroom teaching. In the view of a teacher from an ordinary rural school (ORS1), *'the school inspectors are real education experts whose suggestions for improvement are targeted at the shortcomings of school management in our school'* (OTA). Also, two teachers from both higher and lower performing urban schools (HUS2 and LUS9) reported that attending school inspection activities, particularly in class observation, is a good chance to better understand their performance in teaching practice. So, when inspectors help them identify key issues, they will accept them humbly. Typically, comments from the interviewees suggest that teachers tend to be highly obedient to inspectors' instructions. However, a weakness was highlighted by a city inspector regarding the quality of inspectors' feedback by stating that *'it is tricky for us to make a reasonable judgment and give high-quality feedback on improving school quality because we cannot finish data collection and analysis within such a short period. Almost half of the time is spent on documents inspection and observing classroom teaching'* (CI2). Similarly, a headteacher from an ordinary rural school (ORS1) argued that *'due to the geographical priority, visiting rural schools is not as convenient as visiting urban schools. Sometimes, inspectors only spend half a day in our school inspecting some school documents to see if school operates in compliance with legal regulations.'* (OH) So, in rural schools, inspectors may be more likely to draw up feedback based on reviewing school documents rather than on-site investigation and classroom observation. These statements suggest that the quality of feedback remains to be improved by providing more professional guidance regarding internal schooling processes to better reflect the underlying values of school inspection (Huang, 2009).

e. Rewards/sanctions

The survey results indicate that inspection rewards (76%) were slightly higher rated than sanctions (72%) by participants, regarding motivating teachers to work hard and this underlines that school honours and reputation are much valued in the Chinese context. In the view of a teacher from a lower performing urban school (LUS9), *‘rewards are good to stimulate teachers’ enthusiasm for teaching which has gradually faded long ago with students decreased academic performance’* (LT1). More broadly, a headteacher from an ordinary rural school (ORS1) recognises a good reputation and honour brought by the reward would potentially influence school development, since *‘government investment usually prefers schools with good reputations, and parents also tend to choose a reputable school for their children in the same school district’* (OH). Meanwhile, a teacher from a higher performing urban school (HUS2) highlighted the impact of rewards on student development by stating that *‘the reward that schools have achieved promote the good reputation of the school which is also beneficial for individuals’ [student] development’* (HT2). Thus, the ordinary and high-performing schools pursue a higher level of education quality focusing on the broader outcomes brought by rewards in the development of the school and student, not merely in student academic performance. However, the low-performing school still sees the improvement of students’ academic performance as the top priority.

Nevertheless, a few interviewees were also critical of inspection rewards, arguing this leads to unintended negative consequences for students especially disadvantaged students. A teacher from a lower performing urban school (LUS9) noted, *‘students’ academic performance is so low in our school. However, in order to receive rewards from the senior department, we still need to arrange some activities to cater for inspectors’ preferences, despite that they are unrelated to the improvement of student outcomes. That is a waste of time’*. This uncovers the weakness of rewards in compelling schools to employ misguided coping strategies to receive rewards. These actions are potentially unhelpful in the long run as underlying targets for improving school quality may be ignored (Brimblecombe et al., 1996; Chapman, 2001).

4.3.2 Strategies for improving inspection processes and outcomes

a. External accountability of school inspectorates remains to be enhanced. As currently, school inspectorates still lack independent executive power in supervising school quality, the authority of school inspectorates is weakened severely. A city inspector recommended that, *‘in order to strengthen inspectorates’ impacts on school supervision, school inspectorates need to be separated from the MOE and be given independent executive power’* (CII). Similarly, a city education officer (EO) added, *‘in an effective school inspection system, only when inspectorates’ authority is strengthened by performing executive power independently, will school inspection results receive enough attention from schools and the public. So that schools could take actions on improving education quality more effectively’*. From the interviewees’ suggestions above, external accountability of school inspection needs to be further strengthened to ensure inspectorates’ independent identity in parallel with the

MOE, so as to better function in prompting schools to improve schooling processes and outcomes.

b. Multi-form documents could be inspected. Regarding improving the school inspection process, some interviewees (5 out of 13) recommended employing dynamic and detailed school-produced materials such as video and photos when inspecting schools, which would complement the textual material. For example, a teacher from an ordinary rural school (ORS1) noted that *‘even if the related school documents are inspected, the textual materials used for school inspection could be reduced. But other dynamic elements, for instance, video, and photos should also be examined, for these materials could offer more true information and would be more difficult to fabricate than the textual documents’* (OT2). Moreover, a headteacher from a lower performing school (LUS9) explained that *‘for example, the inspectorates required schools to hold some cultural activities. If the inspectors check the plans for the events and we do not have enough time to organise this activity, we will fabricate the plan. But if the photo materials related to this activity are also inspected, we have to arrange this activity’* (LH). The statements above show participants’ understanding of the need to address fraudulent behaviour by using more video and photo material in addition to or as alternatives to textual documents. More importantly, using additional types of evidence might be more helpful for inspectors to know what the school has done and to make a more reliable judgement on school education quality.

c. Schools are not notified before school visits. The inspectorate regulations in Q city state that schools are notified one month prior to a school visit in order to prepare. Despite a city inspector arguing that the prior notification showed inspectors’ respect for the school, and suddenly descending on a school might disturb the regular teaching order, a national inspector (NI) noted, *‘the sudden class visit requires teachers’ to have high professional abilities to accommodate inspectors’ requirements at any time. Thus, teachers would need to pay more attention to strengthening their teaching competence after class to get ready for inspectors’ unexpected visits’*. Clearly, prior inspection notification makes it more difficult for inspectors to recognise the real circumstances of school quality in that, as reported by a teacher from a lower performing urban school (LUS9), *‘if inspectors want to know the real situation of the school, they are not supposed to leave enough time for schools to falsify inspection materials by prior notification’* (LT2). Participants’ perceptions above show that the effects of school inspection might be strengthened by unannounced school visits which leave no time for schools to cover or hide problematic school issues. As a way of addressing this issue, the idea of a developmental school inspection was proposed by a city inspector (CI1) who suggested, *‘regular school inspection as an essential and unseparated component of schooling process could be incorporated into the daily life at school. So, schools could get used to aligning their behaviour with the legal regulations and improve school quality substantially’*. Overall, participants suggested that school inspection procedures should be improved and more attention should be given to impacts of developmental school inspection on promoting education quality, in order to avoid schools using coping strategies which might reduce inspection quality.

5 Discussion

According to the findings in this research, school/teacher accountability was rated lower than compliance with legal regulations, school development and improvement of education quality with regard to the purposes of school inspection. This indicates that stakeholders generally agreed that the school inspection system should play an active role in encouraging schools to comply with legal requirements (De Wolf & Janssens, 2007) and enhance school improvement (Landwehr, 2011). In contrast, the lowest rating of accountability purpose for school inspection given by survey participants reflects the reality of weak external accountability in China's inspectorates, despite this purpose arguably being one of the two basic functions of school inspection (Slater, 2013). Moreover, the lack of independent executive power hinders school inspectorates from effectively facilitating school improvement and this is supported by Brock's (2009) research in the Gansu province of China, which found that giving inspectors the power to report, propose, and support improvements could enhance school development planning because the important process of setting out school targets was reviewed independently by inspectors, taking into account of the school context. Additionally, the weak external accountability of the educational inspectorates in China has long been attributed to the lack of mechanisms for publishing school inspection performance results, given that greater public accountability pressure could bring about positive impacts by urging low-performing schools to strive for improvement and to reach the expectation of good education as described in standards and procedures (Altrichter & Kemethofer, 2015; Ehren & Dijkstra, 2014; Ozga, 2013). This approach is supported by the survey finding that 80% participants see the publication of school inspection performance data as the most important methods used in school inspection that could potentially promote improvement of education quality. However, the fact is that according to the interviewees, school inspection performance might still receive much less attention than the enrolment rates for senior high school from parents. Moreover, interviewees were concerned with parents' limited abilities to interpret school inspection performance correctly, as this could make their decision-making only partly dependent upon rational factors (Faubert, 2009).

As the study findings have shown above, in alignment with the highest rating of the inspection purpose of compliance with legal regulations, the item regarding school's implementation of inspector feedback and the extensive use of fraudulent coping strategies identified by participants have also been highlighted as a critical issue in the research. The evidence suggests most but not all headteacher and teachers' passive acceptance and strong motivation to implement inspectors' feedback, and also their respect for the bureaucratic authority of the inspectorates. This may originate from the strong bureaucratic accountability found within the highly centralised system in China where teachers are required to adapt themselves to the defined inspection system by following its directives mechanically (Lai & Lo, 2007). In this way, teachers' self-determination and individualistic tendencies are weakened (Lin et al., 2012) which could negatively

influence their motivation to find local contextualised solutions to improve the quality of education provided. Moreover, as noted by a headteacher from an ordinary rural school (ORS1), inspectors tend to focus more on checking school's compliance with legal regulations than on improving schooling processes and outcomes during school inspection. This may lead to disconnection with school improvement and even potentially distract schools from focusing on meaningful school improvement strategies as found in middle- and low-income countries (Chen, 2011; Darvas & Balwanz., 2014; Uwazi., 2009; Faubert, 2009). In this study, considering that a sizeable minority (30%) did not agree on the strengths of feedback in improving teachers' teaching practice, it can be implied that school inspectors should improve the quality of school inspection by focusing more on the substance of teaching and learning instead of a simple check of compliance with legal regulations.

In particular, this study found that to achieve a high score on school inspections or to seek for rewards, some underperforming schools would pre-arrange activities, interview questions, school documents and fabricate school self-evaluation reports in an inspection-approved way. These deliberate strategies conceptualised by Nelson and Ehren (2014) as organisational performativity, are also recognised in previous research (Matthews and Sammons, 2005; DeWolf & Janssens, 2007; Penninckx et al., 2015). Thereby, school inspectors would hardly see the real situation of school quality based on school's 'performance', which is likely to harm the quality of school inspection. Based on the survey and interview findings presented above, these coping strategies to some extent could be attributed to the highly prescriptive and inflexible inspection standards, particularly in highly disadvantaged contexts and this results in narrowing curriculum and teaching strategies. Although a comprehensive and detailed framework could increase the reliability of school inspection (Muijs, 2018), it would also lead to undesirable effects from the school inspection process, such as reduced validity if school contexts vary greatly, as in China, and are not considered sufficiently (Carlbaum, 2016). This finding is supported by Li et al., (2016), who argued that the quality of school inspection could be improved only when the quality of school inspection standards, approach and procedure were continuously contextualised. Similarly, since 2009, Flemish inspectorates have differentiated school inspections with modifications to their focus and coverage according to which aspects of the external school inspection framework are most pertinent to the particular school being inspected (Shewbridge et al., 2011).

What is noteworthy is that almost two-thirds of participants agree that a focus on quantifiable targets distort education purpose in that, as reported by a rural school teacher, over emphasising the enrolment rate for the senior high school hinders student all-round development. Consistently, according to Ofsted's director Tryl (2018), it would be somewhat pointless to rigorously uphold academic standards if pupils' safety is not ensured and pupils are not educated to become active citizens. This interpretation of the results is supported by Nelson and Ehren (2014), who uncovered the negative impact of overemphasis on the quantified performance measurement scheme on schools' 'whole and long-term objectives'. However, over 75% of participants rated internal school target setting highest to demonstrate and improve education quality. Furthermore, in view of the interviewees, the city region in

Shangdong province has given schools the autonomy to set targets based on school characteristics and contexts. This is in alignment with the OECD (2013) suggestion that school inspectors should focus external school inspection on the particular area in the school that needs the most attention. Similarly, how frequently the school was visited was rated lowest by survey participants. In fact, arguably the frequency of school visits should depend on the needs of schools (Whitby, 2010). For those failing schools, more school visits would be necessary to supervise their improvement; for high-performing schools, the frequency of school visits should not be the main concern of school inspectors but attempt to continuously align their self-evaluations and daily practices with inspection standards (Ehren. et al., 2015). Following participants' suggestions, and in line with other country systems, e.g. England, the regular school inspection visits could be better incorporated into schooling processes, which means schools are not informed in advance and are unable to spend extra time preparing for school inspection, but then they are able to showcase the real status of schooling quality to inspectors and reduce opportunity for misinformation and fraudulent documentation. Also, this approach could reduce the teacher's workload and alleviate the pressure experienced in over-preparation for inspectors' school visits. Likewise, since 2015, schools in Hong Kong have been selected randomly for external school inspection, instead of conducting it in a fixed cycle in order to 'better position external school review as an ongoing measure to complement school self-evaluation' (EDB, 2015, p. 3).

6 Conclusions

Given the reported study evidence overall, the first key recommendation is that an independent organisational identity is needed to enhance the influence of the inspectorates, which could enable the inspectorates to independently execute power in managing the time and resources so that they can directly bring about improvement and exert greater pressure on schools to comply with legal regulations and this approach is supported by Muijs (2018). Despite the shift in school inspectorates' independent executive power since *The Educational Inspection Ordinances* was issued in 2012 (Song & Yue, 2013), interviewees indicated that the authority of inspectorates are still weak and lack external accountability. As suggested by a number of researchers and policymakers, this issue with current school inspectorates in China could be addressed by separating the school inspectorates from the educational administrative departments so they are performing executive power independently. However, this change would be difficult in the current Chinese provincial policy context (Zhou & Xue, 2018), whereby provincial governments have the power of investigation, examination and accountability, which are essential and inter-related in complete administrative supervision (Huang, 2009; Zhang, 2011). An alternative approach would allow the creation of an independent national system of school inspection, where local inspectors are line managed by a national rather than provincial organisations.

The second key recommendation relates to public accountability. Despite the majority of survey participants support for publication of inspection performance to demonstrate education quality, school rankings by inspection performance arguably reflect the quality of school intakes rather than the school's contributions to improving student learning (Faubert, 2009). Moreover, within the context of China, little consideration has been given to publishing school performance results or the potential impact of publication on improving education quality and the feasibility of doing, so more research is needed. Thus, considering the complexity of educational issues, the question remains is it reasonable for schools to take public responsibility for education quality. Therefore, adapting inspection purposes and priorities to the historical and cultural contexts of a country or different area within a country is essential to investigate if public accountability can promote school improvement in a specific context. Indeed, many commentators have argued that neoliberal public accountability can have detrimental effects (Altrichter & Kemethofer, 2015; Ehren & Dijkstra, 2014).

The third recommendation relates to the key role of Chinese inspectorates in requiring schools' compliance with previously set rules, regulations and standards in the Chinese hierarchical administrative system. Schools' acceptance and action on inspectors' feedback and school staff's fraudulent strategies highlighted by some participants reflects their high sense of respect for bureaucratic authority. In this sense, the tasks for the preparation for an upcoming school inspection seem to be driven by externally imposed supervisory arrangements rather than internally reinforced, shared commitments to school-based autonomous development (Fu, 2006). Different from top-down accountability-oriented approaches which tend to make underperforming school teachers and leaders feel anxious about being told how to improve, internal school improvement has been found to be more effective in improving students' academic outcomes in Shanghai (Jensen & Farmer, 2013). This research agrees with the conclusions of Penninckx and colleagues (2015), who argued that the characteristics of schools, such as its innovative capacity, supportive professional relationship, and so on, might affect the impact of inspection, but that influence is obviously smaller than the impact of the inspection characteristics. Thus, a developmental school inspection is recommended to routinise and incorporate school inspection practice into regular schooling processes, since a school's own internal accountability is more likely to better identify and understand schooling processes that are more helpful with improvement in contrast with the external accountability used to judge school performance (Leslie et al., 2012). We would also argue that it is necessary to make provincial consultation on future school inspection frameworks and criteria more available to school practitioners and inspectors, which would generate a more bottom-up and unified method to improve school development planning. In this way, the needs and context specificity of schools and local communities could be better accommodated (Lee et al., 2008; Ning, 2015; Zhao & Lan, 2017). However, this does not mean that the inspectorates should lower the standards when inspecting underperforming schools. Rather, the nationally agreed criteria for school inspection are still essential, since it is advantageous in keeping schools focused on core quality indicators in a more systematic way (OECD, 2013). Nevertheless, developing inspection standards and approaches to collecting

data with schools and local stakeholders might enhance school capacity to address local educational challenges and equally may also promote realistic expectations for evaluation and improvement and institutionalise external inspection criteria (Ehren et al., 2017; OECD, 2013). Therefore, the inspectorates need to initiate a range of evidence-based localised studies, monitor their impact and use results to inform modifications to improve the existing provincial school inspection framework to tailor to specific contexts and accommodate students' needs (OECD, 2013).

Considering these three recommendations in mainland China, as well as further consideration of the strengths and weakness of school inspection in one Shandong city region identified in this paper, could bring considerably greater benefits and fewer unintended consequences for school inspection in future. Overall, the study is seen as exploratory and the results of the findings cannot be generalised beyond the research context, given that a non-probability sampling method and relatively small sample was employed. Also, as a non-experimental research study, neither the quantitative strand nor the qualitative strand of this research provides a causal explanation of the results. Moreover, there was no tangible quantitative evidence obtained from this research to examine to what degree school management and classroom teaching have been improved based on the feedback provided by the external inspectors. Thus, it will be significant to investigate the impact of school inspection on education quality by allowing direct measures of the changes in schools value-added performance (Thomas, 2020) and more specifically students' academic achievements before and after school inspection. Additionally, it is also essential to identify and empirically analyse the mechanisms which connect school inspections to school improvement actions and to further clarify the links between the characteristics of school inspection approaches and school improvement. It is hoped that more empirical research in the Chinese context will trace clear connections between the process of school inspection and changes in schooling processes that bring about improvement so as to optimise the school inspection system and strengthen the effects of school inspection on improving education quality.

Acknowledgements I am grateful for the valuable advice for the research provided by Dr. Liz Washbrook at the University of Bristol.

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