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Designing a Suitable and Local Model for The Evaluation of Teachers Performance in Qom Province and its Validation

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ABSTRACT

Objective: The aim of the current research was to present a model for evaluating the performance of teachers in Qom.

Methods: The research methodology encompassed a practical approach, utilizing a combination of exploratory and mixed strategies, with both qualitative and quantitative components. Within the qualitative segment, the grounded theory approach was implemented, while the post-event method was employed in the quantitative segment. The qualitative phase targeted a population of 50 education experts, specialists, and teachers in Qom during 2021. Following theoretical saturation, the sample size for this phase consisted of 21 individuals selected through a targeted sampling method with a snowball technique. Conversely, the quantitative section involved the selection of 300 administrative staff, managers, and teachers based on Cochran's formula, using a multi-stage random sampling technique. Data collection involved the utilization of a semi-structured interview technique as well as a performance assessment questionnaire. Content analysis (interviews) and coding (open, axial, and selective coding) were employed for qualitative data analysis, while the quantitative analysis utilized exploratory and confirmatory factor analysis.

Results: The outcomes of the study highlighted a six-component model for evaluating the performance of teachers in Qom, comprising classroom management, innovation and creativity, capability development, communication, commitment, and information technology.

Conclusions: In essence, our results provide valuable insights to managers for appraising the performance of teachers based on a sound model.

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Introduction

Organizational performance has consistently wielded significant influence on corporate actions. Hence, the methodologies for accurately assessing this performance are increasingly regarded as a crucial area of study for both businesses and scholars (Andrews et al., 2006). Notably, over the past decade and a half, the realm of performance measurement (PM) has captured the attention of scholars across various disciplines. This surge in interest appears to have peaked in the late 1990s. Neely et al. (2007) research indicated a substantial volume of 3615 articles on performance measurement were published between 1994 and 1996. Moreover, the year 1996 witnessed the release of books on this subject at a frequency of one every two weeks solely in the United States. Various researchers from diverse functional domains have contributed a wealth of information on PM, firmly establishing it as a pivotal component of the literature on manufacturing strategy (Kennerley & Neely, 2002). Nevertheless, the burgeoning research in PM has presented a challenge for organizations and scholars alike. The interdisciplinary nature of PM research has been cited as a barrier to advancements in the field, and the lack of ownership of PM within a specific academic discipline has hindered the transcendence of traditional silos in research efforts (George et al., 2019). Consequently, this situation has led to a proliferation of disparate PM information, some of which may be redundant or conflicting in nature.

Performance appraisal is a mechanism that assists both organizations and employees in fulfilling their respective requirements (Steers & Lee, 2017). When appropriately structured and utilized, this tool can serve as an effective means of fostering, training, enhancing, and at times, reforming employees (Baird et al., 2020). The assessment of performance holds significance across all types of organizations and establishments, with one particularly crucial domain being the educational sector within any given nation. This is due to the fact that the advancement of educational evaluation stands as a prerequisite for the progress of any country. Furthermore, the necessity to appraise the performance of educational institutions in alignment with the guidelines outlined in the foundational transformation document necessitates the development and articulation of distinct, context-specific metrics for these entities. The selection of such metrics plays a pivotal role in determining the efficacy of the performance evaluation framework (Azimi et al., 2023).

The significance and role of education in human societies, along with its crucial impact on the social, economic, and political advancement of society, are indisputable. It is evident that

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individuals working in education, such as administrators and educators, must possess the requisite expertise, knowledge, and consciousness to effectively carry out their responsibilities in order to attain educational objectives and enhance its efficiency (Zahed et al., 2010). Consequently, competent and knowledgeable human resources can optimize the educational system and steer the entire organization towards success. Evaluation of performance stands out as a pivotal concern across all establishments, with no organization being conceivable without a structured performance assessment mechanism (Rafiezadeh & mirsepassi, 2017).

Regarding employees, performance evaluation refers to the systematic and regular assessment of employees' job performance by their immediate supervisors. This assessment involves a thorough and frequent evaluation of individuals' job performance, examining how they meet their job responsibilities and identifying their potential for growth and improvement (Asanbe et al., 2016). The primary aim of performance evaluation is to determine the adequacy and worth of employees concerning their designated roles and acceptance within the organization, with the evaluation process requiring objectivity and systematization (Tayebi Abolhasani & Koosha, 2016). In line with Yari et al. (2021), performance evaluation is a formal and periodic process where employees' performance is reviewed and evaluated. Recognizing high-performing employees, rewarding them, and thereby fostering motivation to improve not only their own performance but also that of their colleagues, serves as a fundamental rationale behind performance evaluation. According to Mirnejad et al. (2019), performance evaluation is a continuous process that assesses the level of goal attainment. This evaluation entails examining the effectiveness and efficiency of resources and work processes, the quality of products (as a result of processes), and the implementation of programs.

Authors and scholars have introduced a variety of classifications and groupings of metrics for evaluating performance. Within one such classification system, Chiesa et al. (2009) have distinguished indicators into objective and subjective categories. Objective indicators are quantified using concrete data in a highly realistic manner, while subjective indicators of organizational performance involve assessments based on managerial and business owners' perspectives, as well as soliciting subjective judgments from relevant stakeholders. Key indicators in this domain include customer satisfaction and employee well-being. The evaluation of teacher performance is a structured process that involves gathering and analyzing data on teachers' past

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and current work performance and conduct (Gómez & Valdés, 2019). Recognizing high-performing employees, rewarding them, and thereby fostering motivation for both their own improvement and that of their colleagues are among the primary drivers of performance evaluation.

Defining the desirable attributes of a teacher should be rooted in the theoretical and philosophical underpinnings of the educational system. Possessing these attributes is deemed essential for teachers, and drawing on the theoretical foundations for the cultivation of these competencies, they encompass abilities, skills (both individual and collective), and qualities pertaining to all facets of an educator's identity necessary for comprehending one's own and others' situations, as well as taking individual and collective action to pursue continuous enhancement in alignment with the Islamic standard framework.

As we know, many of the evaluation systems currently utilized by diverse organizations and institutions have been crafted in a suboptimal and inadequate manner. Conducting research in this area could help dispel teachers' apprehensions, enhance their performance, and strive towards achieving excellence by offering a desirable and context-specific model. Another rationale underscoring the significance of such research is its capacity to unveil the latent components that enhance teachers' performance. It is imperative to gauge teachers' performance using defined levels and criteria to ensure that their impact is effectively conveyed to the forthcoming generation, who are the future architects of society. In light of this, the objective of this research is to propose a model for assessing teachers' performance in the educational landscape of Qom province.

Materials and Methods

The ongoing investigation is applied with a focused intent and a mixed exploratory methodology (qualitative and quantitative), implemented through the utilization of grounded theory approach in the qualitative segment and post-event technique in the quantitative segment. The qualitative phase involved specialists, experts, evaluators, and educators from Qom province's primary school in 2021, while the quantitative aspect encompassed all educators from the same location in 2021. A sample size of 21 individuals from the target population was chosen for the qualitative segment, whereas 300 individuals were selected for the quantitative segment based on Cochran's formula at a 95% confidence level. In the qualitative part, purposeful sampling was employed using the

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snowball method, considering inclusion criteria (teachers with 5 years of experience) and exclusion criteria (unwilling participants). One researcher with adequate expertise in the research field was selected for interviews, introducing new participants for subsequent interviews until data saturation was achieved after 21 interviews. The quantitative phase utilized a multi-stage sampling approach, initially selecting three districts randomly from Qom's educational districts, followed by randomly choosing 10 schools from each district and ultimately selecting 10 individuals randomly from each school. Information collection in the initial stage involved studying research literature and background studies on the topic from 2000 to 2020, with irrelevant articles being eliminated and the remaining ones thoroughly analyzed. Subsequently, the initial list of expert opinions and evaluation criteria was prepared based on opinions and background studies. A semi-structured interview was then conducted with teachers, focusing on data collection, coding, categorization, and classification of variables. Following interviews with 21 teachers, a questionnaire consisting of 55 questions across 6 components was developed. Content analysis (open, axial, and selective coding) was employed for qualitative data analysis, while the structural equation modeling method in PLS software was utilized for quantitative data analysis.

Results

First, the concepts and categories obtained regarding the design and validation of the performance evaluation model from the process of reviewing documents and studying theoretical literature, such as models, theories and the background of researches conducted inside and outside the Iran, and concepts extracted from the interviews were integrated by performing open coding, detailed analysis and homogenization (choosing more correct words, removing common concepts). A total of 194 codes were identified in the axial coding stage in the form of 6 components in axial coding phase (table 1).

Table 1. Axial coding of teacher performance evaluation

Row	Component
1	Classroom management
2	Innovation and creativity
3	Capability development
4	Information technology
5	Commitment
6	Communication

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The outcome of the two procedures involving research background exploration and consultations with professionals resulted in the recognition of indicators (utilizing open coding) that were classified into dimensions and components (employing axial coding). Ultimately, 6 components were derived (assisted by selective coding), shaping the dimensions and components of the instructional teachers' performance assessment model in the qualitative phase (table 1).

After the process of coding, categorizing, and naming the components, the development of the teacher's performance evaluation model took place, which underwent validation through exploratory factor analysis (Table 3).

Table 2. Examination of sampling adequacy index and the normality of data distribution (KMO and Bartlett)

KMO	0.904
Bartlett's Test	13560.56
DF	1176
P	0.001

The assessment of sample adequacy and comparison with the standard statistic value ranging between 0.65 and 0.75, as derived from the KMO and Bartlett test (Table 2), indicated that the sample size met the necessary conditions for utilizing its data in exploratory analysis. Through principal components analysis and Varimax rotation in exploratory factor analysis, six factors (components) were identified within the performance evaluation model for educational teachers. Subsequently, it was confirmed that six components were extracted from the factor analysis rotation. These components were classified as follows: classroom management, innovation and creativity, capability development, communication, commitment, and information technology. According to the removal of non-homogeneous questions and the modification of the performance evaluation model in the standard mode as well as in the significance mode of the coefficients (figure 1 & 2) and according to the amount of factor loadings and the significance of the obtained coefficients of each of the indicators in the performance evaluation questionnaires which are above 0.6, all items (measurement indicators) have sufficient validity and converge and correlate with each other in the reflective external model, so the model has the initial reliability condition (table 3).

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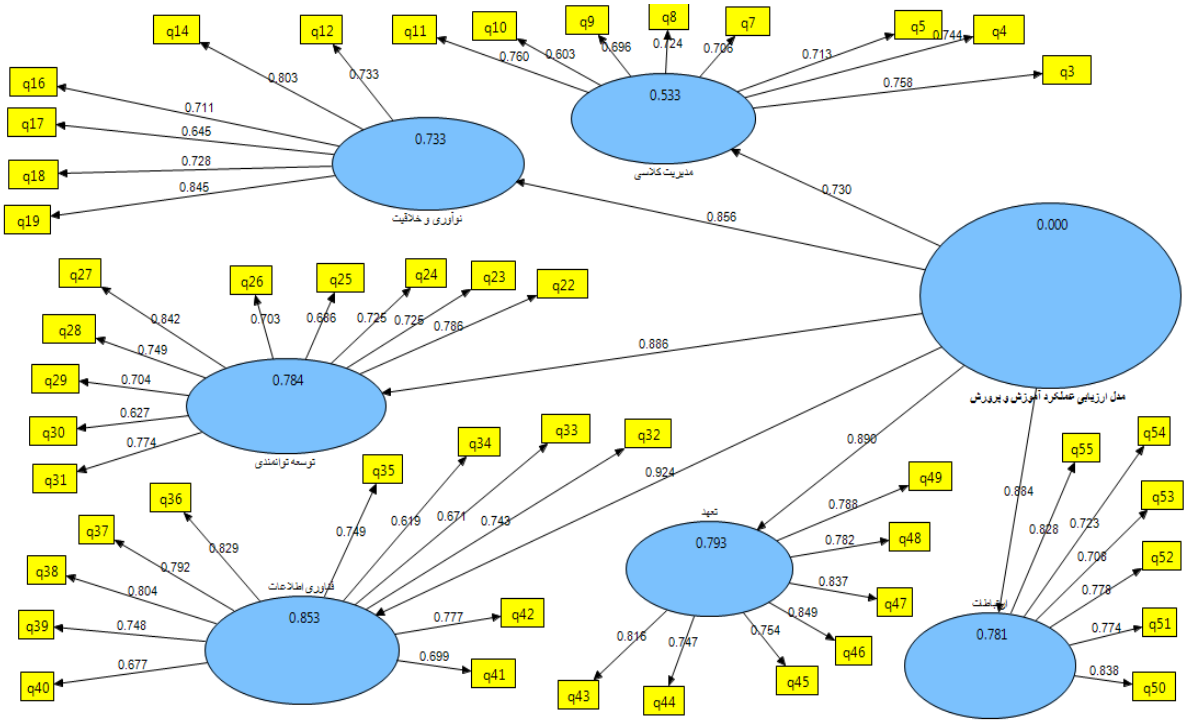

Fig. 1. The modified external reflective model in the standard coefficient estimation mode

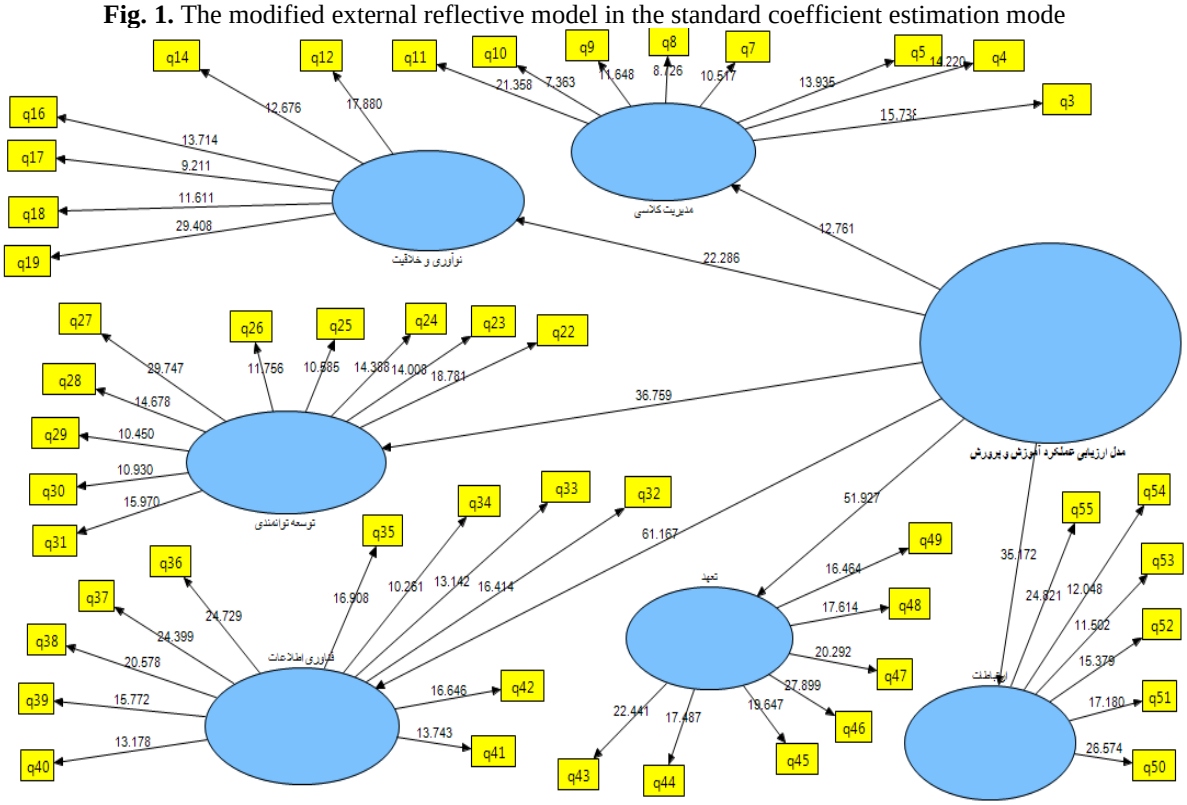

Fig. 2. The modified external reflective model in the significant mode

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Table 3. Reliability result

Variable	Cronbach alpha	Composite Reliability	Loading factors	Communality	AVE
Performance evaluation	0.969865	0.971721	-	0.393459	0.393459
Classroom management	0.863003	0.971721	0.73	0.510433	0.510433
Innovation and creativity	0.839939	0.882411	0.86	0.557535	0.557535
Capability development	0.904173	0.920854	0.87	0.539259	0.539259
Information technology	0.916112	0.929589	0.92	0.547199	0.547199
Commitment	0.903672	0.923961	0.89	0.634969	0.634969
Communication	0.867037	0.900671	0.88	0.602726	0.602726

According to Table 3, the value of the coefficient obtained from Cronbach's alpha for the research variables is above 0.7 and their composite reliability is higher than the average extracted variance and the average extracted variance of each of the above variables is higher than 0.4. Therefore, it is possible to confirm the appropriateness of the reliability of the research tool and model.

Table 4. Quality test of internal reflective measurement model (structural model)

Variable	R^2	Communality	P	CV communality	Coefficient	Q2
Performance evaluation	-	0.393459	-	0.379561	0.379561	0.379561
Classroom management	0.532781	0.510433	0.73	0.426535	0.441025	0.426534
Innovation and creativity	0.733289	0.557535	0.87	0.453402	0.462021	0.453402
Capability development	0.784301	0.539259	0.87	0.417955	0.443302	0.417955
Information technology	0.853200	0.547199	0.92	0.506154	0.496237	0.506154
Commitment	0.792775	0.634969	0.89	0.537252	0.511699	0.537252
Communication	0.781034	0.602726	0.88	0.426534	0.451024	0.426534
Mean	0.74623	0.530793				

According to the amount obtained according to the above table, the significant coefficients of the components which are significant at the 99% confidence level and also according to the amount of variance explanation of the endogenous variables by the exogenous variables obtained according to the table 4 and comparing it with three values and criteria, the appropriateness of the fit of the structural model is confirmed, and in addition, in examining the quality of the performance evaluation model and comparing it with three poor (0.1), medium (0.15) and strong (0.35) values, all the variables of the research are measured with very strong quality by their indicators, so the internal measurement model has a very good quality. To check the fit of the overall model, the GOF criterion is used, for which 3 values (0.1), (0.15) and (0.35) are introduced as poor, medium and strong values. According to the obtained value of 0.63, it indicates the good fit of the overall model for the data.

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Discussion

The objective of the present study was to develop an appropriate and specific model for assessing educational instructors in Qom province and to validate it. The outcomes indicated that the suggested model comprises elements such as classroom management, creativity, capability enhancement, communication, commitment, and information technology, demonstrating a strong fit with the collected data. These results are in agreement with numerous prior investigations. For instance, Sadeghi Nia et al. (2018) demonstrated that key factors in appraising the performance of primary school principals through a phenomenological approach encompass "ethics and values", "attributes", "role expectations", "skills and competencies", "knowledge", "financial and accounting matters", "operational and managerial issues", and "educational matters". Rafiezadeh and mirsepassi (2017) indicated through a study that organizational factors play a crucial role in evaluating job effectiveness. Similarly, Najafizadeh and Zahedi (2016) highlighted in their research that deficiencies in the employee performance management system include: structural deficiencies (such as an inadequate performance assessment system, absence of integration between remuneration and performance evaluation, limited utilization of information technology in performance evaluation, and insufficient resources for performance evaluation implementation), and behavioral drawbacks (such as lack of managerial commitment to performance evaluation, and low employee awareness and knowledge about the system).

A limitation of this study is its focus on specific educational domains within Qom province, which restricts the generalizability of the findings to other provinces and regions. Furthermore, the utilization of a self-reported questionnaire may introduce response bias that must be considered when extending the implications of the results.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis and contributed to the article and approved the submitted version.

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