

Designing the Policy Model of In-Service Training Suitable for the Professional Development of Teachers

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ABSTRACT

Purpose: Teachers are one of the most important pillars of the education system and play a crucial role within it. Therefore, the present study aimed to design a model for policy-making on empowerment and professional advancement of teachers, focusing on in-service training.

Methodology: This study was applied in terms of objective and mixed in terms of implementation method, i.e., qualitative and quantitative. In the qualitative section, the research population consisted of experts familiar with the research field, 10 of whom were selected using purposive sampling based on theoretical saturation and subjected to semi-structured interviews. Furthermore, in the quantitative section, the research population was teachers in the city of Neyshabur, 384 of whom were selected using random sampling according to the Krejcie and Morgan table and responded to a researcher-made questionnaire. In this study, qualitative data were analyzed using thematic analysis based on grounded theory in MAXQDA software, and quantitative data were analyzed using exploratory factor analysis and structural equation modeling in SPSS and Smart PLS software.

Findings: Qualitative findings indicated that causal conditions included three themes: social needs, changes in educational needs, and the creation of individual needs in teachers; the central phenomenon included three themes: value creation, problem solving, and scientific and practical training; contextual conditions included five themes: proper course implementation, course content richness, a suitable environment, proper planning, and teachers' mindset; intervening conditions included six themes: uncommitted and inexperienced managers, improper performance evaluation, improper needs assessment, lack of teaching quality in courses, unconventional teaching methods, and a weak motivational system; strategies included ten themes: successful modeling, course content improvement, region-focused planning, accurate and scientific needs assessment of courses, removing teachers' individual barriers, changes in educational systems, improvement of physical conditions, employing experienced and expert instructors, providing motivational frameworks, and a suitable evaluation system; and outcomes included four themes: social outcomes, improvement in teachers' educational performance, job well-being of teachers, and psychological outcomes of teachers. Quantitative findings showed that the factor loading of all themes (except for 6 themes) was above 0.60, and the Cronbach's alpha and composite reliability of all of them were above 0.70. Additionally, the model for policy-making on empowerment and professional advancement of teachers, with emphasis on in-service training, had a suitable fit, and the effect of causal conditions on the central phenomenon, the effect of the central phenomenon, contextual conditions, and intervening conditions on strategies, and the effect of strategies on outcomes were significant ($P < 0.05$).

Conclusion: The designed model for policy-making on empowerment and professional advancement of teachers, focusing on in-service training, can assist planners in the education system to empower and advance teachers professionally through in-service training.

Keywords: Policy-making, Empowerment, Professional advancement, In-service training, Social needs, Teachers.

1. Introduction

Empowerment is one of the organization's goals, aiming to create efficient human resources and maintain a culture of high quality (Setiawan, Hanim, Komariyah, & Salim, 2020). Teachers are mentioned as the most significant change agents in education (Ali Mohammadi, Jabbari, & Niazazari, 2020); thus, focusing on teachers as key components of the educational system and enhancing their knowledge, insights, attitudes, and skills is essential, and improving teachers' educational quality must be specially considered as the most crucial factor in an educational system. The literature on professional development of teachers in the context of school reform and empowerment is based on the belief that the main reason for students' learning and success is teacher effectiveness (Antoniou et al., 2015) and that the success of efforts made in the field of educational improvement requires the professional development and increased capabilities of teachers (Richter et al., 2011). Through continuous training, teachers can enhance their teaching quality. Even as experts, teachers still have limitations and cannot master all knowledge. Mastery of a subject is not easy, as it requires ongoing improvement of skills, knowledge enhancement, and continuous learning of various skills (Copriady et al., 2021). Teachers are expected to play several, sometimes conflicting, roles in the educational system. Their primary role is to help all students develop knowledge and skills, but they often take on the role of educators (Butera et al., 2021). Empowering teachers is a strategic issue for several reasons (Setiawan et al., 2020). Firstly, not all teachers have been endowed with the necessary conditions and quality by law. Secondly, not all teachers can improve their abilities in response to the emotional issues related to education, scientific advancements, and societal demands (Forefry et al., 2017).

Guskey (1990) suggested that any new plan for professional development of teachers should focus on strengthening them through the evaluation of existing in-service training (Copriady et al., 2021). However, due to the need for expertise in new teacher training programs, teaching strategies, and new technologies, self-sufficiency for teachers is challenging. As a result, teachers can develop their skills and achieve professional identity through pre-service and in-service training programs, thus introducing the concept of lifelong learning. Every teacher needs to undergo in-service education and training courses for their initial professional training (Saban, 2002). In-service

training courses are key elements in solving the problems faced by teacher development (Kazemi & Ashrafi, 2014).

Scholars have defined empowerment in various ways. Some define it as autonomy over one's work, while others as the capacity to perform job-related tasks. However, empowerment has been defined as energy. According to their cognitive model of empowerment, energy may be obtained as a stimulus-response after personal judgments as mental interpretations (constructs) of reality (Sahin, 2020). Employee empowerment is expressed as the process of sharing, educating, assisting, teamwork, and ensuring their participation in decision-making processes and personal development (Akgun, 2021). Empowering teachers means strengthening teachers by their managers. Also, empowering teachers means improving teachers' job performance, giving control and decision-making processes to teachers, supporting teachers in acquiring knowledge, skills, and professional power, and achieving sufficient power. Enhancing the status of teachers and their professionalization is empowerment (Kiral, 2020).

The concept of teacher empowerment is used by various researchers with different definitions. Teacher empowerment is a process in which teachers deal with their development and have the ability to solve their problems (Bogler & Somech, 2004). Teacher empowerment increases teachers' job satisfaction, leads to an increase in professional commitment and organizational citizenship behaviors, boosts teachers' confidence, and reduces teachers' burnout (Dee et al., 2003). Therefore, it is believed that empowering teachers and awakening their sense of capability can lead to many positive organizational behaviors and ultimately play a significant role in the organizational success of teachers and sustainable work (Hidroğlu & Tanrıöğen, 2021). Thus, it is assumed that empowering teachers and awakening their sense of empowerment can lead to numerous positive organizational behaviors and ultimately enable them to play a significant role in the organizational success of teachers and sustainable work (Bogler & Somech, 2004).

Reychav, Elyakim, and McHaney (2023) conducted research titled "Lifelong Learning Processes in Professional Development for Online Teachers During COVID." Lifelong learning encompasses four pillars: (1) Learning to Know; (2) Learning to Do; (3) Learning to Be; and (4) Learning to Live Together. These four pillars, expanded upon in their study, provide a framework for examining the relationships between professional development, the use of technology for remote online teaching, and educational effectiveness in the COVID-19 era. The study analyzed

survey responses from 372 elementary school teachers representing six different areas and interviews with 16 teachers. Responses were analyzed using statistical correlation tests and MANOVA. Findings showed that teachers' professional development processes, with a positive perception towards the use of technology for remote online teaching, have a positive impact on teachers' instructional efficiency. Learning focal points predicted the use of technology, and the use of technology predicted learning evaluation measures (Reychav et al., 2023).

Njenga (2023) conducted research titled "Continuous Professional Development of Professional Teachers in Kenya: Motivations, Methods, and Practices." This study adopted a qualitative approach, where collected data were inductively coded through semi-structured interviews with professional teachers to determine how motivations affect the methods of continuous professional development. Professional teachers were considered as adult learners, with motivation seen as dynamic and contingent on an individual's context. It was found that professional teachers in Kenya participate in both formal and informal continuous professional development with various motivations. Four distinct categories of motivations related to seeking performance competence, status and autonomy, escape from daily routines, and compliance with requirements were identified (Njenga, 2023).

Zhou, Tigelaar, and Admiraal (2022) conducted a study titled "Professional Learning of Professional Teachers: A Systematic Literature Review of the Past Decade." This study presented the results from a systematic review of activities and outcomes of professional teachers' learning based on the analysis of 54 journal articles published between 2010 and 2021 and various formal and informal settings. Secondly, the learning outcomes of professional teachers were associated with cognitive and behavioral changes, as well as student and organizational benefits (Zhou et al., 2022).

Nasser Sheykholslami, Oladian, and Bakhtiari (2021) conducted research titled "Presenting a Model for Empowering Elementary Teachers Based on the Lesson Study Approach (Case Study of Tehran)." The research methodology was applied in terms of objective and mixed (qualitative-quantitative) in terms of data collection, and mixed in nature based on the data type. The statistical population in the qualitative section of the research included education experts and top teachers from educational districts. Factor analysis results showed that among 120 existing indicators (items), 18 main components were

identified. Accordingly, knowledge, skill, attitude as forming factors, and individual, organizational, and group factors as influencing factors were identified (Nasser Sheykholslami et al., 2021).

Sadeghian Gharaghieh, Rasouli, Tabarsa, and Ghorbani (2021) conducted research titled "Designing and Explaining an Empowerment Model for Educational Staff Based on Good Governance with a Mixed Approach." This mixed-method research combined qualitative and quantitative methods. The statistical population in the qualitative phase included academic and organizational experts from universities in West Azerbaijan province. According to the findings, a total of 10 dimensions and 27 components of empowerment based on good governance were identified, confirmed by software, including participation, rule of law and values, development and training, transparency, accountability and responsiveness, control, social capital and communications, leadership and management, clear goals and results orientation, and equity (Sadeghian Gharaghieh et al., 2021).

Sadeghi, Moazami, Hashemi, Kayosi, and Miresmaeili (2021) conducted research titled "Presenting a Model for Technological Empowerment of New Primary Teachers in Tehran." The research was applied in terms of objective, descriptive-survey in terms of method, and mixed in terms of research approach. The qualitative section results showed that contextual conditions, knowledge and skill development, individual characteristics, and digital literacy are the main dimensions of the technological empowerment model for new primary teachers in Tehran. Each of the qualitative findings was confirmed in the quantitative section (Sadeghi et al., 2021).

Copriady et al. (2021) conducted research titled "In-Service Training and Teaching Skills among Chemistry Teachers: The Mediating Role of Teacher Collaboration." Using research data analysis, a high level of collaboration, training, and teaching skills was found among chemistry teachers. Male professors have higher skill levels in all aspects compared to female teachers (Copriady et al., 2021).

Butera et al. (2021) conducted research titled "Education as Social Influence: Empowering Teachers to Become Agents of Social Change." They concluded that if teachers embrace the role of mentors - instead of guardians - focusing on the growth of their students' knowledge, they can enhance deep study, long-term learning, and behavioral equality. Such an approach can aid in the design of teacher training and school reform to maximize the learning potential of all students and enable teachers to become active agents of

profound individual and societal changes (Butera et al., 2021).

Samadi, Rashidi, and Shahraki (2020) conducted research titled "Presenting a Model for Empowering Teachers in West Azerbaijan Province Based on the Iranian-Islamic Model of Fundamental Transformation Document in Education." Their research methodology was developmental in terms of objective and sequential exploratory mixed research in terms of data type, both qualitative and quantitative, conducted through a grounded theory method and descriptive-survey in terms of method. The results showed that in the developed model, 6 main factors and 20 components including transformation seeking (environmental recognition, organizational health, accountability), improvement (skill enhancement, development of participatory management, supervision and evaluation), providing a learning environment (promoting a learning culture, providing educational equipment, financial facilities), individual organizational factors (personality, organizational, motivational), transcendence (strengthening the sovereignty of the educational system, developing organizational communications, ideological education, emphasis on scientism), empowerment (meaningfulness, effectiveness, self-efficacy, sense of competence) were included (Samadi et al., 2020).

Ali Mohammadi et al. (2020) conducted research titled "Professional Empowerment of Farhangian University Graduates in the Horizon of Emerging Skills." The research tool in the qualitative section was semi-structured interviews, and in the quantitative section, it was a researcher-made questionnaire. Data analysis in the qualitative section was performed through content analysis, followed by exploratory factor analysis and confirmatory factor analysis, resulting in ten dimensions and 52 indicators. Dimensions included professional ethics and religious knowledge, digital literacy, entrepreneurship and initiative, standardization of processes, internship improvement, professional (cognitive) knowledge, familiarity with high-level documents, metacognitive knowledge, creativity and research, strategic knowledge management (Alimohammadi et al., 2020).

Sami, Piri, and Talebi (2020) conducted research titled "Designing a Model for Empowering Primary Teachers Based on the Lesson Study Approach in Educational Studies and School Settings." Data from higher-level documents, educational guidelines, results of domestic and international research, and interviews with 13 participants were analyzed. The sampling process was purposive. Model validation

throughout the research process was ensured according to methods mentioned in qualitative research, including triangulation of data, review of analyses under the supervision of other researchers and participants, use of the researcher's field notes, and reaching data saturation. In the final analysis, 235 initial concepts were extracted. The main themes extracted from data analysis showed that the main elements of the model include the philosophy and why of empowerment, goals, levels, barriers, facilitating factors, outcomes, and results of empowerment based on the lesson study approach for primary teachers (Sami et al., 2020).

Shahzadeh Teymourlu, Khodayari, Noorbakhsh, and Alidoust Ghahfarokhi (2020) conducted research titled "Designing a Model for Empowering Physical Education Teachers with an Approach to the Vision Document 1404 of the Islamic Republic of Iran." This exploratory mixed research was applied in terms of objective. The results showed that the effective factors on the empowerment of teachers include: contextual dimensions (technology and communications, cultural factors, economic factors), organizational (goals and strategy, resources and equipment, and supervision and evaluation), and individual with components (psychological, professional, and belief-ethical). From the contextual dimensions, technology and communications, from the organizational dimensions, resources and equipment, and from the individual dimension, the professional component had the most significant effect on the empowerment of physical education teachers (Shahzadeh Teymourlu et al., 2020).

Iqbal, Khan, Mohmand, and Mujtaba (2020) conducted research titled "The Impact of In-Service Training and Motivation on the Job Performance of Technical and Vocational Education Teachers: The Role of Job-Person Fit." They stated that training and In-Service Training (INSET), motivation, and the fit between job and employee are vital for employee performance. The focused aim of this study was to investigate the relationship between in-service training and the impact of motivation on the job performance of Technical and Vocational Education and Training (TVET) teachers, considering the moderating role of person-job fit. Using convenience sampling, data were collected from technical and vocational education teachers in South Asia. The findings of this study showed a significant impact of in-service training and motivation on job performance (Iqbal et al., 2020).

Saleem, Nadeem, Iqbal, and Qureshi (2020) conducted research titled "Empowering Higher Education Teachers In-Service in Content Knowledge and Teaching Skills through

Interactive Teaching Approaches." This study showed that preliminary training should be mandatory for all teachers before starting work at the higher level, i.e., colleges and universities, as it provides the necessary knowledge and skills through practical training. They lack real classroom experience in higher education. This training ultimately creates a significant change in their job attitude. Thus, by training them, the ultimate goal, the scientific growth of college and university students, can be achieved (Saleem et al.).

Many developed countries initially are very careful in hiring teachers, but even if the most capable and knowledgeable teachers are employed in the education system, over time, their knowledge and abilities will become obsolete. With the advancement of science and technology, the previous knowledge and skills of old teachers will become outdated and not meet the educational needs of future generations and countries. Among them, countries strive to develop the knowledge and skills of teachers through proper and optimal policy-making in the education system and offering in-service courses. In other words, they train and employ capable teachers in their education systems. This issue has received less attention in our country, and in-service training courses for teachers are less prioritized and important for the education system than other issues, with students learning outdated knowledge and obsolete teaching methods in this education system. Therefore, it is necessary to provide a correct policy in this regard and offer teacher empowerment courses based on in-service training. Considering the necessity of creating in-service training courses for teachers in the country, the quality of in-service training courses in the country is not highly satisfactory, and this is evident in the continuation of teaching based on old methods, reduced quality of schools, decreased inclination for further education by students, unemployment growth, and other tangible and intangible components of society. Therefore, addressing this issue is very necessary. A comprehensive model should be created for policy-making and guiding the country's education system, especially in-service training in the country. This system should aim to develop teachers' skills to enhance their scientific, practical, personal, and life abilities. The presence of a unified and guiding model is essential for in-service training, which is the goal of this research. The goal of the research is to answer the general question: What is the model of policy-making for empowering and professionally advancing teachers with an emphasis on in-service training?

2. Methods and Materials

2.1. Study Design and Participants

This study was applied in aim and mixed in execution, that is, both qualitative and quantitative. The research population in the qualitative section comprised experts familiar with the research domain, from whom, based on the principle of theoretical saturation, 10 individuals were selected through purposive sampling and subjected to semi-structured interviews. After interviewing the eighth person, repetition in the received information was observed, but to ensure certainty, interviews with the ninth and tenth individuals were also conducted. The current research interview had one main question and six subsidiary questions, and the interview protocol questions were developed in line with responding to these questions. It is worth mentioning that during the interviews, in addition to note-taking and audio recording, exploratory questions were also posed based on the interview circumstances and the respondents' answers. In this study, the researcher obtained the essence of the obtained information by continuously comparing data, verbatim writing of the interview texts, field notes, registered items, and processes of conceptualization, interpretation, and theorization. Each interview was coded and analyzed before the subsequent interview. The researcher was looking for the main variable and process in the data. Repeated review of the data, codes, emerging categories, memos, and diagrams written during the data analysis helped in writing the main story, helping the researcher to identify the study's main variable. The validity of the interviews was confirmed through triangulation, and their reliability was calculated using the inter-coder agreement coefficient as 0.92. In addition to calculating the reliability coefficient between two coders for reliability confirmation, raw data were referred to so that the theoretical construction could be compared and evaluated with the raw data. The research audit technique was also used, which refers to mechanisms applied throughout the research stages to gradually ensure the research's reliability and validity. These mechanisms are used throughout the research process to produce reliable findings.

Moreover, the research population in the quantitative section consisted of teachers in the city of Neyshabur, from whom, according to the Krejcie and Morgan table, 384 individuals were selected through random sampling and responded to the researcher-made questionnaire. In other words, the research tool was a researcher-made questionnaire based on qualitative findings. To respond to

each of the items of the current research questionnaire, a 184-item Likert scale with five points was used, ranging from "strongly disagree" with a score of one, "disagree" with a score of two, "neutral" with a score of three, "agree" with a score of four, to "strongly agree" with a score of five. In this study, the validity and reliability of the researcher-made questionnaire on policy-making for empowerment and professional advancement of teachers with emphasis on in-service training were examined and reported in the findings section.

2.2. Data Analysis

In this study, qualitative data were analyzed using thematic analysis based on grounded theory in MAXQDA software, and quantitative data were analyzed using exploratory factor analysis and structural equation modeling in SPSS and Smart PLS software.

3. Findings and Results

The findings of the qualitative section revealed that policy-making for empowerment and professional advancement of teachers, with an emphasis on in-service

training, included 142 indicators, 31 themes in 6 categories. Specifically, causal conditions included three themes: social needs, changes in educational needs, and the creation of individual needs in teachers; the central phenomenon included three themes: value creation, problem-solving, and scientific and practical training; contextual conditions included five themes: proper course implementation, course content richness, a suitable environment, proper planning, and teachers' mindset; intervening conditions included six themes: uncommitted and inexperienced managers, improper performance evaluation, improper needs assessment, lack of teaching quality in courses, unconventional teaching methods, and a weak motivational system; strategies included ten themes: successful modeling, course content improvement, region-focused planning, accurate and scientific needs assessment of courses, removing individual barriers for teachers, changes in educational systems, improvement of physical conditions, employing experienced and expert instructors, providing motivational frameworks, and a suitable evaluation system; and outcomes included four themes: social outcomes, improvement in teachers' educational performance, job well-being of teachers, and psychological outcomes of teachers (Table 1).

Table 1

Categories, Themes, and Indicators of Policy-Making for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training

Category	Theme	Number of Indicators
Causal Conditions (13 indicators)	Social Needs	4
	Changes in Educational Needs	3
	Creation of Individual Needs in Teachers	6
Central Phenomenon (11 indicators)	Value Creation	4
	Problem Solving	2
	Scientific and Practical Training	5
Contextual Conditions (18 indicators)	Proper Course Implementation	4
	Course Content Richness	3
	Suitable Environment	2
	Proper Planning	6
	Teachers' Mindset	3
Intervening Conditions (27 indicators)	Uncommitted and Inexpert Managers	9
	Improper Performance Evaluation	3
	Improper Needs Assessment	2
	Lack of Teaching Quality in Course	3
	Unconventional Teaching Methods	5
	Weak Motivational System	5
Strategies (46 indicators)	Successful Modeling	3
	Course Content Improvement	5
	Region-Focused Planning	3
	Accurate and Scientific Needs Assessment of Courses	4
	Removing Individual Barriers for Teachers	4
	Changes in Educational Systems	8
	Improvement of Physical Conditions	7

Outcomes (27 indicators)	Employing Experienced and Expert Instructors	5
	Providing Motivational Frameworks	5
	Suitable Evaluation System	2
	Social Outcomes	5
	Improvement in Teachers' Educational Performance	11
	Job Well-being of Teachers	6
	Psychological Outcomes of Teachers	5

The quantitative findings showed that the factor loading of all themes (except for 6 themes) was above 0.60, and the Cronbach's alpha and composite reliability of all of them were above 0.70. Six themes—course content richness, proper planning, successful modeling, accurate and

scientific needs assessment of courses, removing individual barriers for teachers, and employing experienced and expert instructors—were removed due to a factor loading of less than 0.40 (Table 2).

Table 2

Factor Loadings and Reliability of Policy-Making for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training

Theme	Factor Loading	Significance	Cronbach's Alpha	Composite Reliability
Social Needs	.779	p < .01	.834	.867
Changes in Educational Needs	.754	p < .01	.915	.935
Creation of Individual Needs in Teachers	.827	p < .01	.861	.891
Value Creation	.801	p < .01	.726	.764
Problem Solving	.840	p < .01	.759	.794
Scientific and Practical Training	.823	p < .01	.845	.860
Proper Course Implementation	.769	p < .01	.830	.851
Course Content Richness	.367	p > .05	.910	.934
Suitable Environment	.772	p < .01	.756	.789
Proper Planning	.295	p > .05	.713	.755
Teachers' Mindset	.709	p < .01	.845	.870
Uncommitted and Inexpert Managers	.730	p < .01	.863	.899
Improper Performance Evaluation	.626	p < .01	.914	.934
Improper Needs Assessment	.703	p < .01	.715	.768
Lack of Teaching Quality in Course	.694	p < .01	.766	.790
Unconventional Teaching Methods	.727	p < .01	.845	.888
Weak Motivational System	.775	p < .01	.866	.901
Successful Modeling	.381	p > .05	.890	.924
Course Content Improvement	.795	p < .01	.794	.864
Region-Focused Planning	.707	p < .01	.763	.799
Accurate and Scientific Needs Assessment of Courses	.315	p > .05	.845	.883
Removing Individual Barriers for Teachers	.370	p > .05	.888	.904
Changes in Educational Systems	.708	p < .01	.830	.866
Improvement of Physical Conditions	.695	p < .01	.815	.843
Employing Experienced and Expert Instructors	.299	p > .05	.819	.855
Providing Motivational Frameworks	.681	p < .01	.946	.967
Suitable Evaluation System	.697	p < .01	.937	.959
Social Outcomes	.661	p < .01	.706	.749
Improvement in Teachers' Educational Performance	.774	p < .01	.846	.890
Job Well-being of Teachers	.847	p < .01	.811	.837
Psychological Outcomes of Teachers	.697	p < .01	.877	.905

Furthermore, the findings indicated that the policy-making model for empowerment and professional

advancement of teachers, with emphasis on in-service training, had a suitable fit (Table 3).

Table 3

Evaluation Indices of the Policy-Making Model for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training

Category	R ²	Outcome	Q ²	Outcome
Causal Conditions	0.835	Strong	0.391	Strong
Central Phenomenon	0.276	Medium	0.174	Medium
Contextual Conditions	0.764	Strong	0.380	Strong
Intervening Conditions	0.711	Strong	0.367	Strong
Strategies	0.904	Strong	0.437	Strong
Outcomes	0.624	Strong	0.321	Strong

Moreover, the findings showed that the effect of causal conditions on the central phenomenon, the effect of the central phenomenon, contextual conditions, and intervening

conditions on strategies, and the effect of strategies on outcomes were significant ($P < 0.05$) (Figure 1, Figure 2 and Table 4).

Table 4

Effects in the Policy-Making Model for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training

Effect	Path Coefficient	T-Statistic	Significance	Outcome
Causal Conditions on Central Phenomenon	0.525	16.098	$p < .05$	Confirmed
Effect of Central Phenomenon on Strategies	0.516	16.193	$p < .05$	Confirmed
Effect of Contextual Conditions on Strategies	0.325	12.020	$p < .05$	Confirmed
Effect of Intervening Conditions on Strategies	0.246	6.668	$p < .05$	Confirmed
Effect of Strategies on Outcomes	0.790	44.696	$p < .05$	Confirmed

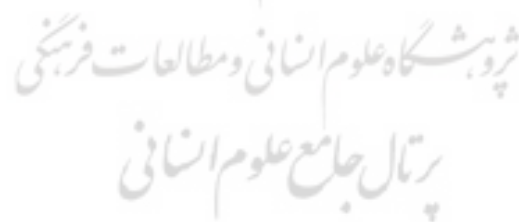


Figure 1

The Policy-Making Model for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training in the Context of Path Coefficient

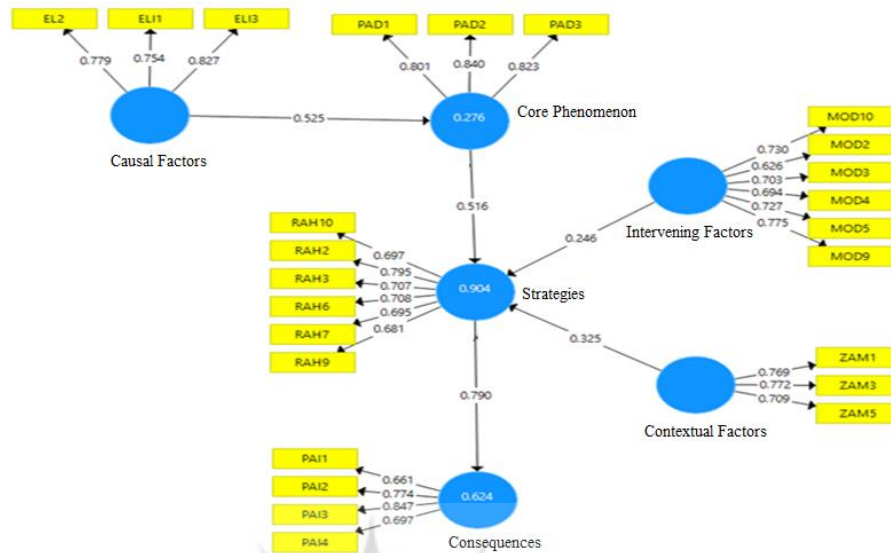
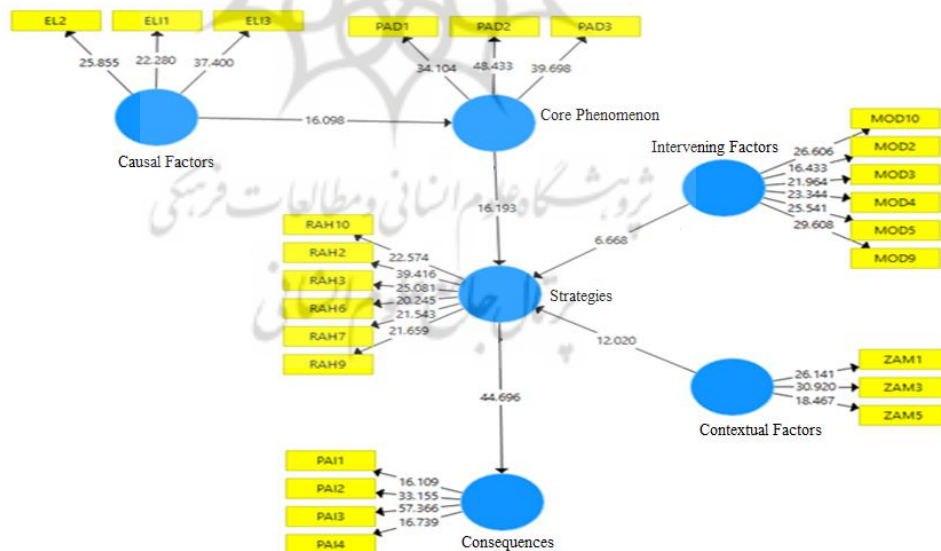


Figure 2

The Policy-Making Model for Empowerment and Professional Advancement of Teachers with Emphasis on In-Service Training in the Context of T-Statistic



4. Discussion and Conclusion

Teachers, as the human force in this field, act as soft agents within the educational organization. Our country's teachers in Iran put considerable effort into learning and

educating students. To provide better educational and nurturing services, it is necessary for these individuals to become more capable over time so that they can be updated in terms of knowledge and enhanced in skills. Accordingly, the current research focused on designing a model for

policy-making on empowerment and professional advancement of teachers, relying on in-service training.

The qualitative findings showed that causal conditions included three themes: social needs, changes in educational needs, and the creation of individual needs in teachers; the central phenomenon included three themes: value creation, problem-solving, and scientific and practical training; contextual conditions included five themes: proper course implementation, course content richness, a suitable environment, proper planning, and teachers' mindset; intervening conditions included six themes: uncommitted and inexperienced managers, improper performance evaluation, improper needs assessment, lack of teaching quality in courses, unconventional teaching methods, and a weak motivational system; strategies included ten themes: successful modeling, course content improvement, region-focused planning, accurate and scientific needs assessment of courses, removing individual barriers for teachers, changes in educational systems, improvement of physical conditions, employing experienced and expert instructors, providing motivational frameworks, and a suitable evaluation system; and outcomes included four themes: social outcomes, improvement in teachers' educational performance, job well-being of teachers, and psychological outcomes of teachers. The quantitative findings showed that the factor loading of all themes (except for 6 themes) was above 0.60, and the Cronbach's alpha and composite reliability of all of them were above 0.70. Furthermore, the policy-making model for empowerment and professional advancement of teachers, with emphasis on in-service training, had a suitable fit and the effects of causal conditions on the central phenomenon, the effect of the central phenomenon, contextual conditions, and intervening conditions on strategies, and the effects of strategies on outcomes were significant.

These findings align and correlate with the results of domestic and international research (Alimohammadi et al., 2020; Butera et al., 2021; Copriady et al., 2021; Nasser Sheykholeslami et al., 2021; Njenga, 2023; Reyhav et al., 2023; Sadeghian Gharaghieh et al., 2021; Saleem et al.; Samadi et al., 2020; Shahzadeh Teymourlu et al., 2020; Zhou et al., 2022). Interpreting the findings of this study, it can be inferred that in the realm of causal conditions, three themes were identified: social needs, changes in educational needs, and the creation of individual needs in teachers. Social needs are the existing needs within society. With changes in these needs, the educational style must also change. With changes in the nature of societies in terms of

scientific advancements, growth in science and technology, differences in the human resources required by organizations, and the educational needs of individuals, it's necessary for the offered training to change, which itself leads to changes in teachers' skills and their need for empowerment. Another theme is changes in educational needs, which, with changes in the educational system, requires teachers to adapt themselves to these changes and prepare for new teaching methods in this system, a preparation that should be done through appropriate in-service training so that teachers can make the best use of these trainings. The third theme, the creation of individual needs in teachers, is where the individual feels this need internally, with interest and inclination. Also, the central phenomenon included three themes: value creation, problem-solving, and scientific and practical training. This means that in-service trainings can be considered as empowering training that solve organizational and individual, organizational, and societal challenges. They should be practical for teachers, adding value and utility to the courses and their richness in content. Finally, this phenomenon must be based on scientific and practical training, meaning that training should be needs-based, up-to-date, and involve the transfer of experience to teachers. Additionally, if we can achieve satisfaction and participation of teachers in these courses, better productivity and effectiveness in these courses will be obtained with their cooperation.

Contextual conditions comprised five themes: proper course implementation, course content richness, a suitable environment, proper planning, and teachers' mindset. Regarding the theme of proper course implementation, efforts should be made to ensure courses are conducted with quality, involving all stakeholders from management to experts, implementers, and lecturers who are among the best, familiar with this process, and capable of delivering a course worthy of teachers. For course content richness, it's essential to use up-to-date content, strive for more practical courses, review course content, and provide topics and materials that are necessary and practical for teachers. The next theme, a suitable environment, necessitates providing at least basic cooling and heating facilities for lecturers to ensure their comfort and ease. Another theme in contextual conditions is proper planning, meaning that courses should have appropriate goal-setting and accurate needs assessment based on societal needs, with specific times and locations for courses. Another contextual condition is teachers' mindset, which must be ready in all respects to accept the courses.

Economic, personal, and cultural motivations should be provided for them. Additionally, for intervening conditions, six themes were identified: uncommitted and inexperienced managers, improper performance evaluation, improper needs assessment, lack of course teaching quality, unconventional teaching methods, and a weak motivational system. Regarding the output of previous courses, it was stated that the role of previous courses in future teacher attendance is very important, including what happened in previous courses, negative experiences that may have occurred for teachers in past courses, poor quality of conducted courses, and the incompetence of instructors, all of which are factors that will influence the groundwork for subsequent courses. Therefore, efforts should be made to conduct these courses pleasantly and with high output. Other conditions also include cultural problems of teachers such as the reduction of their social status, arrogance and pride of teachers in learning, cheating in conducting courses and their exams, purely score-oriented perspectives, and the reduction of teachers' work ethics that should be examined from a cultural perspective and solved with appropriate solutions. Other barriers to appropriate in-service training include external pressures on teachers in the country, such as family problems of participants, economic pressures existing in society, political changes of teachers and educational managers, increased teacher involvement in ranking systems, and other issues that need to be resolved. Other issues and barriers also include the shortcomings of training courses, indicative of the poor quality of these courses, which cause dissatisfaction and lack of enthusiasm among teachers. Additionally, the issue of educational management that entrusting education to uncommitted and inexperienced managers, improper performance evaluation, lack of proper educational needs assessment, and ultimately the weakness of the educational system in in-service training, are all matters of concern in intervening conditions.

Strategies included ten themes: successful modeling, course content improvement, region-focused planning, accurate and scientific needs assessment of courses, removing individual barriers for teachers, changes in educational systems, improvement of physical conditions, employing experienced and expert instructors, providing motivational frameworks, and an appropriate evaluation system. All the aforementioned strategies are approaches that can lead to the empowerment and professional advancement of teachers, relying on in-service training, and can be utilized by specialists and planners of the educational system. Also, for outcomes, four themes were identified:

social outcomes, improvement in teachers' educational performance, job well-being of teachers, and psychological outcomes for teachers. Outcomes that will occur if appropriate in-service training and teacher empowerment are implemented. Psychological outcomes are for the teacher themselves, feeling useful in the educational environment and society, which will result in higher self-confidence and morale, encouraging their inquisitiveness and research spirit. These aspects will improve teachers' educational performance, resulting in more enriched, conceptual, and practical classrooms. Also, teachers will become more updated and use modern teaching methods. These aspects will lead to the job well-being of teachers and ultimately have beneficial effects for society. In addition to the above, it can be said that since the findings of this study were based on the grounded theory model and had appropriate validity and reliability, it is logical that the effects of causal conditions on the central phenomenon, the effect of the central phenomenon, contextual conditions, and intervening conditions on strategies, and the effects of strategies on outcomes are significant.

This research had limitations such as a small number of experts in this field, difficult access to experts, and the inability to conduct face-to-face interviews with experts due to COVID-19 conditions. Future research should strive to conduct a comprehensive examination across several groups and stakeholders of in-service training courses (teachers, managers, course instructors, organizers, the education organization, etc.) and, by comparing multiple communities, enhance the generalizability of this research to the real world. Therefore, the designed model for policy-making on empowerment and professional advancement of teachers, with emphasis on in-service training, can assist educational system planners in empowering and advancing teachers professionally through in-service training.

Authors' Contributions

The authors of this study actively and constructively participated in all stages of the research.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

No conflict of interest was reported.

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Ethical Considerations

Researchers endeavored to adhere to all ethical standards, including confidentiality and individuals' freedom to participate or not participate in the research.

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