



Investigating the Effect of Information Technology Systems on the Professional Growth of Teachers

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Abstract:

The main goal of this research is to explain the factors affecting the professional growth of teachers through the combination and coherence of the findings of the professional growth literature in order to provide a coherent and comprehensive framework of professional growth based on the development and analysis of different perspectives regarding the factors affecting the professional growth of teachers. In terms of its practical purpose and in terms of the nature of the data and the style of analysis, the present research is placed in the qualitative research group and has been carried out using a meta-composite method. To better understand how teachers grow professionally, it is necessary to determine different dimensions of growth for teachers. On the other hand, before beginning the process of professional growth, it is important to define what growth is, how it affects teacher and student outcomes, and determine the factors influencing it. The findings of the research show that for the professional growth of teachers, at least 8 basic dimensions should be paid attention to. These dimensions are: teaching, training, facilities, evaluation, content, technology, expertise, in-service course. In addition, the components and needs related to each of these factors have been examined, which have been extracted in the form of educational needs and non-educational needs.

Keywords: professional growth, teachers, hybrid approach

Introduction

For years, the education literature has debated whether "teacher quality is the most important school variable affecting student achievement and improving school quality." In this regard, educational leaders, theorists and researchers have focused on how to improve the quality of teaching to improve student learning and achievement. Every year, countries invest millions of dollars to improve the quality of their teachers' skills and competencies by expanding their opportunities for professional development (Sankar et al., 2021).

The concept of professional growth has been proposed since the 1970s and several definitions have been presented for it; In a general and broad sense, professional growth can be defined as



the growth and development of a person in his profession and work. In recent years, the professional growth of teachers has been considered as a long-term process that includes regular opportunities and systematic and planned experiences to promote the growth and development of work and profession (Alipour et al., 1400). The subject of professional growth of teachers is a growing process, transformation, evolution and a part of the phenomenal life in which the teacher always experiences differences, and its constant characteristic is dynamism, creativity and productivity. In the process of growth, the teacher becomes more aware of his own weaknesses and abilities and keeps moving forward from the path of "being" to the path of "becoming" (Pervin et al., 1400).

Professional development is a tool that countries use to improve the knowledge and skills of their working teachers (Ana et al., 2022). In other words, professional growth is considered as the most common version to improve the effectiveness and health of educational systems (Brown and Milito, 2016). To achieve the goals of politicians and stakeholders to increase the quality of teaching and learning in schools, facilitating the professional development of teachers is very important (Dale et al., 2021). Investing in teacher professional development ensures higher student achievement (Gupta and Giwang-Lea, 2020).

The rapid change in the educational landscape, the demand for high educational standards and the need for high-quality education have increased expectations for the skills and professionalism of teachers. On the other hand, teachers' expectations of themselves have also increased with the intensification of new ways of thinking and educational innovations in the knowledge society. Of course, teachers need to be constantly learning. It should be noted that this process requires exposure to new expertise, receiving strong support and access to new opportunities (Sankar et al., 2021), which ultimately leads to educational growth, personal growth, social growth, and professional growth of teachers (Kitriyadin et al. Hakim, 2021).

To better understand how teachers grow professionally, it is necessary to determine different dimensions of growth for teachers. On the other hand, before beginning the process of professional growth, it is important to define what growth is, how it affects teacher and student outcomes, and determine the factors influencing it (Kang et al., 2013). Existing research has mapped the growing demand for teacher professional development. In this regard, Kerwin and Thornton (2021), showed that the professional growth of teachers has a significant effect on the student's reading ability (Kerwin and Thornton 2021). On the other hand, Loyalka et al. (2019) showed, contrary to Kerwin and Thornton's (2021) study, that a large-scale government-run teacher professional development program in China had no effect on teacher knowledge, teaching practices, or student learning outcomes. Loyalka et al., 2019) and programs implemented for the professional development of teachers led to worse learning outcomes for students (Berlinsky and Bosso, 2017). These findings show that there is a clear difference in the effectiveness of teachers' professional development programs (Makwan, 2015: Evans and Popova, 2016). Lisa et al. (2020) have stated that when If teachers' professional training is provided with high quality, teachers' knowledge and skills are improved, and a change in their



attitudes and beliefs is observed, which has the potential to positively affect student outcomes (Lisa et al., 2020). With this limited and highly variable evidence, policymakers and practitioners may be confused about how to effectively structure teacher professional development programs.

According to the research of Kumba and Mwakabenga (2019), researchers have not yet provided a proper understanding of the concept, scope and characteristics of teachers' professional growth. Although the theoretical backgrounds, focuses and contexts of the existing studies are different, many of them have been conducted without a clear definition of professional growth and without understanding its specific characteristics and frameworks. For example, Sales et al.'s (2011) study on teacher professional growth did not define professional growth. Similarly, Bett and Makwa (2018) conducted a study on how to improve teacher professional growth without identifying it or its dimensions. On the other hand, Evans (2014) argues that existing models of professional growth (e.g., Kuipers et al., 2010) fail to address the concept as a whole.

All of these findings are associated with growing concern and attention regarding teachers' professional development (PD) (Orselia et al., 2020). As Clarke and Hollingsworth (2002, p. 947) point out, "If we are to facilitate teachers' professional growth, we need to understand the process of teachers' professional growth and the conditions that support and promote that growth." Understanding these conditions, Kurtagen (2017) emphasized that when designing the professional development process, there is a need to focus on teachers' needs, visions, feelings, motivations, and dreams. In this way, the multidimensional structure and practical development of teachers' professional development complicates the process through which it is implemented, but does not make it impossible. Therefore, a comprehensive model is needed to provide a meaningful and holistic view of professional development. Therefore, to address the gap in the existing research that reflects different perspectives and approaches around teacher professional growth, this study will be implemented with the aim of providing a model of teachers' professional growth with a meta-combination approach.

Analytical review of the research background in the field of teachers' professional growth as stated in the summary of the problem definition; It shows the importance that the field of professional development has not been investigated. Paying attention to the various dimensions of professional development programs from the point of view of all the main stakeholders and agents involved in the program, taking into account the context of schools and the implementation context, is of particular importance. Therefore, this research aims to present the model of teachers' professional development with a meta-combination approach, taking into account the implementation realities of teachers' professional development programs in the context and context of the school, according to the perspective of the main agents of this program. Therefore, the main question that this research tries to answer is, "What is the appropriate model for teachers' professional growth?" to answer



Professional growth

In the new age, which is the age of complexity, competition, change and rapid changes and innovation, managers of organizations are required to change and apply new paradigms and review their management system and thinking. Also, technology has advanced and most students demand more and better quality services, especially in the field of student services and education; Therefore, school managers need flexible strategies to respond and meet the ever-increasing expectations and needs to encourage creativity and personal responsibility among the employees, because today the greats of management science believe that human power is considered the most important and most valuable and strategic capital and organizational resource. One of the characteristics of the index is the superiority of organizations over each other (Habibzadeh, 2014). And they are among the most important role players who are influenced by the organization and influence the organization and expect to have a role and participate in organizational decisions. On the other hand, in the era of rapid transformations, organizations are trying to adapt their effectiveness and efficiency to the external environment and put continuous development at the forefront of their work. Accordingly, in this period, the belief has been formed that creating motivation and growth of employees can increase the quality of their production and performance (Sadeghi, 2007).

But unfortunately, the research results show that one of the most significant challenges of organizations in general and educational organizations in particular is the insufficient use of intellectual resources, mental power and potential capabilities of their human capital. More and social accountability will have no choice but to provide the necessary conditions for maximum use of this capital. Among the methods recommended by experts is staff development (Ghior, 2018).

Growth is a process that is used to improve and upgrade the skills of employees and includes dimensions such as interpersonal communication, organizational structure, and individual and mental-psychological characteristics (Demirchi et al., 2015). Growth in educational organizations is more important and necessary than other organizations; Because education is a comprehensive, dynamic and effective institution on all-round, moral, political, economic, religious, legal, social and cultural behaviors and norms of society; The nature of the activities and its goals are to raise the spirit of creativity, flourishing and emergence of talents, raising the level of specialized public awareness and determining the policy to achieve excellence, development, prosperity and progress. But the studies carried out in the country show that currently the human resources management system of the Ministry of Education lacks a general system suitable for the development of its employees, so it can be acknowledged that without having efficient and efficient human resources, it is not possible to achieve the goals and horizons of the organization. Therefore, human resources play an essential role in the development of dynamism and growth caste and destruction of organizations, it can be said that human resource development is a new and effective approach towards the development of



employees' key competencies and consequently increasing productivity and creating a competitive advantage for the organization. Employees know (Hafez, 1401).

In fact, the growth action mechanism can be explained in such a way that employees have hidden power due to their knowledge, experience and expertise. Therefore, growth is liberating and valuing this power, or in other words, it is the process of empowering people. This mechanism provides potential capacities to use the potentials and talents of human resources that have been neglected. Growth is a type of macro policy that is used for continuous improvement and is a sign to apply the competences of experts in creative and innovative ways in all functional aspects of the organization. Growth connects the individual with others and means building a common horizon, where the organization should reach, and by skillfully linking the organizational culture and platform with operational values, enable all employees to creatively and actively cooperate in pursuing the organization's goals. (Mehrmohammadi, 2016).

The professional growth of teachers as the main body of education is something that requires special attention and need

First, he got acquainted with the preparations for the professional development of teachers. The subject of professional growth of teachers is a growing process, transformation, evolution and a part of the phenomenal life in which the teacher always experiences differences and the dynamic action of creativity and productivity is its permanent feature. By getting involved in the implementation of the curriculum, the teacher gains new insight and knowledge, and in fact, it is the process of re-evaluating and shaping the teacher's beliefs, values and activities, during which teachers, as agents of change, reconsider their commitment to the moral goals of teaching. and expand, and during this process, they create the knowledge, skills and emotional intelligence required for thinking and designing professional performance in a critical way, in which learning is a lifelong process, and a new understanding is always created for the teacher and his professional identity It continuously evolves in the course of the teacher's growth, he is more aware of his "weaknesses and abilities and is on the path" to becoming a path (Pervin et al., 1400).

Definitions of professional growth

Teacher growth is an organized and goal-oriented process to realize career growth and advancement, it is actually a type of planned transformation in a period of a teacher's job and career, and it consists of enhancing additional talent, interests, improving competencies, and in other words, facilitating Professional and personal growth, especially in the role of a coach (Ward et al., 2020).

The growth of teachers' words is the processes and activities planned to increase the knowledge, skills and attitudes of teachers' words so that they can lead to the progress of students' learning (Zahedi and Bazargan, 1392).



The growth of teachers' words is a strategy to support the improvement of their performance and enhance their professional competence (Clary et al., 2019).

Such activities that the teacher engages in while working in the service, in order to help himself in this way to increase his knowledge about his specialty, to increase his ability and skill in managing the teaching and learning process, to improve his sensitivity and knowledge about Students should increase their sense of belonging and dependence to the respective school, feel satisfied with their work, and finally behave as logical, rational human beings and compatible with the environment and society around them (Darvishi et al., 1401).

The need to grow up

Among the most important reasons that can be mentioned for the necessity of growth are:

1- Customers: They have widened the range of their expectations regarding quality, price and services, and the conditions show that if an organization fails to meet these expectations, customers will go to competing organizations.

2- Satisfying the needs of customers should be done according to the necessity of educating the organization because there is always a risk that meeting the customer's needs will advance the profit of the organization to the abyss of its destruction.

3- The pressures that come from global competition on organizations and force them to change and evolve.

As well as the pressures from new technologies and the change in the thinking of customers, all this means that what seemed special and prominent last year, may seem normal this year. In the era of endless competition, any organization that cannot produce cheaper, better, and faster than its global competitors will be forced to stop working quickly. . Prescriptions that become complex for organizational effectiveness and management require a flexible, self-directed and entrepreneurial workforce (Petrovic et al., 2020).

4- Managers have also felt the challenge of producing more with fewer people and spreading the scope of supervision. The traditional management method, which is based on the dominance of the manager and the obedience of the employees, does not answer what the managers are looking for. The solution is to find problems and work with less resources and in a shorter time. Employees are simultaneously looking for job security and ownership of a new job.

5- Contemporary manpower is very different compared to the past. The new work force has a great ability and talent for growth and development, but it is restless and impatient to control its own destiny. Every day, the need to build trust between employees and managers increases so that people can work responsibly in a free environment and managers are able and want employees to act responsibly and freely (Sarkarani, 2017).



The model of real actions for the growth of teachers' words; John Sentra (1978)

John Sentra (1978) stated that the models presented by Goff and Burke were more heuristic than practical. And it is limited only in determining the appropriate methods for the separation of growth activities in educational institutions (Alsten, 2000). Based on this, he presented a model for individuals in which he emphasized the growth and promotion of teachers' knowledge and teaching skills. He also extracted four groups of growth activities for the model he used in educational centers, which are described in the table below (Sankar and colleagues, 2021):

Table (1): Growth activities of the John Sentra model Source (Sentra, 1978)

It includes workshops and meetings in line with the goals of educational organizations, increasing consulting skills and helping to identify the educational platform.	High participation and involvement of teachers in scientific activities
It includes programs that help teachers in using different educational methods and teaching aids and diverse teaching methods, it emphasizes on teaching methods, and the use of experts who help teachers in educational and curricular progress by focusing on the objectives of the course and developing the course to improve skills. Teaching, such as the way of presenting and leading in the class, help design questions and evaluate students, and also encourage the use of educational technology as a teaching aid and provide workshops that express different teaching techniques and methods.	Educational assistance activities
It includes incentive programs and educational excellence, workshops and meetings for the development of research activities and the use of various educational and research grants.	Traditional activities
It includes periodic review of teachers' performance, formal evaluation by colleagues and systematic evaluation of teaching.	Evaluation activities

Model of partners in learning Katz and Henry (1980)

The growth model of Katz and Henry (1980) is another model that focuses on growth. In this model, teachers appear in front of their colleagues' classrooms and observe their teaching methods and share their experiences with each other. Also, in this model, teachers choose three students at the beginning of the school year and interview them continuously throughout the school year, and in this way, they find out how the learning of the room happens. All the participating teachers share their experiences with each other. and at the end of each semester, they present their experiences in writing to be available to their colleagues. Katz and Henry believed that with the implementation of this model, positive changes in teachers' teaching methods, their understanding and attitudes towards students and the relationships between teachers They will achieve with their colleagues (Keller et al., 2020).



- Toikang model (1980)

Toikang (1980) presented his model based on the growth cycle of teachers. In this cycle, many important factors in the growth process were considered. The Tuikang model begins with the statement of strategies and continues with evaluating progress and revising the plan and reflecting it in choosing goals (Collins and Liang, 2015).

- Wilkerson and Airbay model (1998)

In this model, the comprehensive development program should include the following items: professional development (promotion of scientific and research achievements), educational development (teaching progress through coaching), leadership development (development of change and planning skills) and organizational development (empowerment and participation in goal setting and policy making and promotion of incentive and reward system) (Wilkerson and Airbay, 1998).

- Laver and King's model (2000)

Laver and King (2000) presented a model for teacher development with an emphasis on adult learning, which includes 4 stages as follows (Fischer et al., 2018):

1- Pre-planning stage: This stage is the beginning of the teachers' development program. The four main questions that are expressed at this stage are: What is the purpose of teacher development? What is the purpose of this special type of growth program? How is the growth of teachers related to the mission in the organization? What resources are currently available to support teacher development programs?

2- Planning phase: This phase deals with the issues that happen during growth programs. The questions that need to be answered at this stage are what happens during the implementation of a growth program? Who are involved in these programs? How to organize tasks such as implementation support and scheduling?

3- Implementation stage: problems and problems show themselves in the implementation stage. The purpose of this stage is to design a program that realizes the intended goals and achieves good results for the teachers and for the organization. When the stage of implementation of growth is started, four questions should be asked: Will the pre-preparations be paid attention to? How can the program be effectively promoted? How are adult learning principles applied? How are programs monitored?

4- Follow-up stage: The development planning of teachers does not end with the implementation, but what happens after the implementation should be paid attention to. In this stage, it is important to support the change of thinking and behavior with regard to the future development activities. This stage also emphasizes the support of teachers in continuous learning and its application. How is learning supported? (Poli et al., 2015).



- Stanley model (2001)

Stanley (2001) emphasized his growth model in the form of four basic components (individual, educational, organizational and professional) (Clary et al., 2022), which includes the following:

Table (2): The basic components of the Stanley model

Professional development	Organizational improvement	Educational improvement	Personal improvement
-His research - Management -Control and evaluation of subordinates -Providing specialized services - Networking and participation in conferences.	- Communication and connection of people with financial resources	-Teaching and advising students -Evaluation of courses -Helping teachers in the field of educational technology	- Consultation with other colleagues - Presentation of the program -Planning programs - Registration - Answering and meeting requests.

- Drummond-Young model (2010)

Drummond-Young (2010) in an attempt to provide a comprehensive model of faculty growth in nursing education at McMaster University in Canada identified four dimensions for faculty growth, which are educational growth, leadership growth, organizational growth, and professional growth. (Legal Advocacy, 2014):

This model has 4 main components, which are: educational ability, research ability, management ability and communication ability, which are explained in detail below.



Table (3): Basic components of Zahedi Dad and Kalai model (2013)

Communication ability	Management ability	Research ability	Educational ability
Recognizing individual differences Respectful interaction motivating Professional values of teachers justice and fairness External and internal interaction	planning organize Time Management Monitoring and Evaluation Decision making Conflict Management Teamwork	Developing a research plan Research project management Knowledge of scientific journals Compilation and publication of articles Familiarity with databases Improvement technology data analysis Familiarity with upgrade points	Educational Planning learning style Critical Thinking teaching method Information Technology Diagnostic evaluation Formative and final evaluation

Shafizadeh improvement model (2019)

Shafizadeh (1390) in a research entitled "Presentation of a model for the improvement of academic faculty members in Islamic Azad University" presented a hybrid model. In this model, five dimensions have been identified for improvement, which are: research, education, individual organization, and ethics.

Table (4): Shafizadeh improvement model components (2019)

moral	Individual	organizational	educational	research
Being a role model	Creativity, innovation and	Leadership and influence	Compilation of the lesson plan	Production of technical and specialized knowledge



Educating well-educated students Adherence to practical values Attention to the needs of students Mutual relations with students Respect for reliability Fair and legal evaluation Respect for others Respect for the institution	individual initiatives The spirit of criticism Interpersonal communication The spirit of participation Life planning Career planning self management	Group and team activities Effective communication Familiarity with the problem solving process Conflict Management Time Management stress management	Use of technologies Content presentation skills Classroom management skills Providing educational advice Diagnosing educational problems Evaluation of training courses Familiarity with teaching patterns Getting to know the educational regulations	Theorizing and criticizing theories University and industry connection Implementation of research projects practical publications Specialized consultations Membership in forums Participation in conferences Familiarity with research regulations
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Growth activities

Sadeghi (2008) divides growth activities into two categories; Traditional growth and contemporary growth, which is explained in the following table:



Table (5): Growth activities (Sadeghi, 2007)

Development activities of contemporary words	Activities related to traditional growth
<p>Students' desire is considered as the most important feature in the design of vocabulary development activities.</p> <p>Criteria are taken into consideration for students' learning and the growth of teachers' words</p> <p>Continuous follow-up and immediate feedback are important.</p> <p>Different strategies are used during activities.</p> <p>Different results of extracurricular research are used.</p> <p>Teachers and administrators are given the opportunity to go outside the school to learn different ideas and gain new experiences.</p> <p>The leadership skills of teachers and administrators increase.</p> <p>Skills for research and data analysis are enhanced. In planning, the context of the school is considered for activities.</p> <p>Adult learning is accepted as an important platform for the development of skills and programs.</p> <p>Speech development activities are accessible to all teachers.</p> <p>Developmental activities take into account the needs of diverse educational needs.</p> <p>Development activities are focused on individual cooperation and organizational development.</p> <p>Development activities strengthen the roles of teachers and administrators and make them active participants, who can reflect on the activities and evaluate them.</p>	<p>They do not emphasize the needs of students.</p> <p>-The practical implications of the resources for teachers and students are not enough.</p> <p>There is no connection between school improvement plans and work related to growth.</p> <p>There is no encouragement for continuous learning.</p> <p>Cooperation among teachers is weak.</p> <p>There is no feedback or follow-up for speech development activities.</p> <p>Educational workshops are accepted as the basis of speech development activities.</p> <p>During the activities, only one method is used. The activities of the growth of words originate from policy makers and planners.</p> <p>Growth activities are too abstract for managers, management is focused on knowledge, and educational leadership is ignored.</p>

Type and method of research

In terms of its practical purpose and in terms of the nature of the data and the style of analysis, the present research is placed in the qualitative research group and has been carried out using a meta-composite method. Qualitative research is an approach to discover and understand the



meaning that individuals or groups attribute to a social or human issue. The research process includes the formation of questions and methods of data collection, usually in the natural situation of research participants, data analysis in an inductive way from specific topics to general topics, and the researcher's interpretation of the meaning of the data. The final report has a flexible structure. Those who engage in this type of research support inductive style research focusing on people's understanding or meaning of the environment and the importance of expressing the complexity of the studied situation.

Information gathering tools and methods

The data collection method in this research is based on documentary information. The data of the research were collected and analyzed using metacomposite method in order to collect data related to the research that all the studies have been done in the field of teachers' professional growth and then extract and identify the components affecting it in these studies using the seven-step method of Sandolski and Baro. Su (2007) was used.

In the current research, all the researches published in domestic and foreign reliable scientific databases were searched based on the defined keywords in order to obtain a sample that would cause theoretical saturation. The methods of extensive field study, theoretical pluralism and the application of experts' opinions have been used. The research method is analytical-descriptive and open and axial coding was used to analyze the data.

data analysis method

Sandolowski and Barroso's metacombination method was used to examine the findings in this research, which includes seven steps:

1. The first step is to set the research questions.
2. The second step is the systematic review of the texts.
3. The third step: searching and choosing suitable articles,
4. The fourth step: extracting the results
5. The fifth step of analysis and synthesis of qualitative findings
6. The sixth step is to control the extracted codes. The seventh step is to present the findings (Sandolski and Barsu, 2003 and 2007, quoted by Manian et al., 2014).

A summary of the steps is shown in Figure 1:

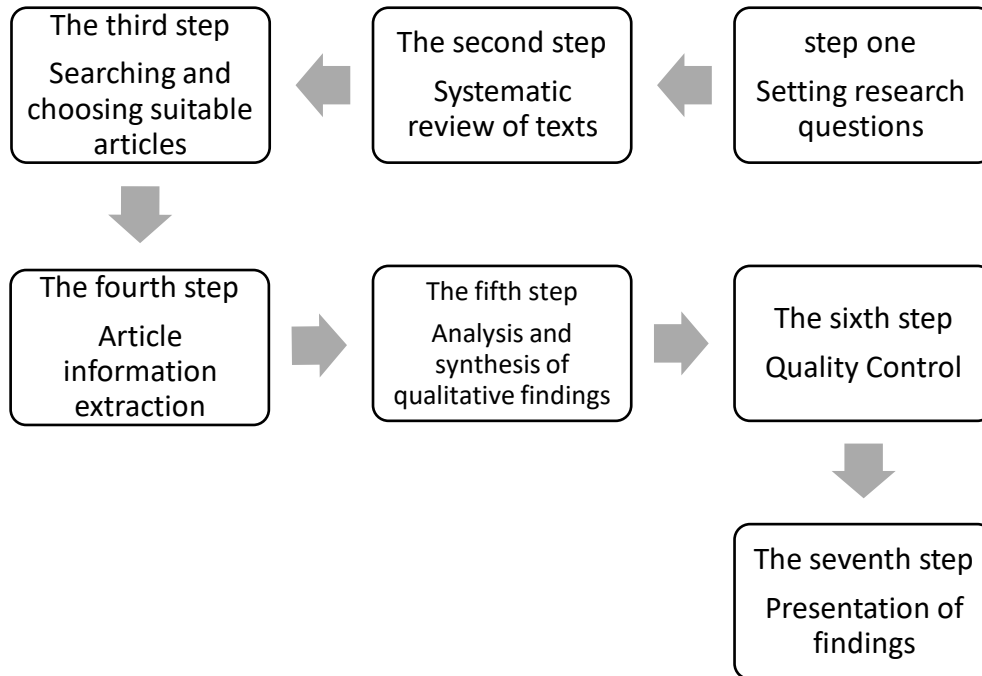


Figure (1): The steps of performing the hybridization method

In the continuation of this section, each step is examined separately and its application is studied in the subject of the present research, which is to identify and explain the components and factors affecting the professional growth of teachers. The aim of the current research is to identify and explain the components and factors affecting the professional growth of teachers. Most of the articles containing qualitative studies lack quantitative data, or qualitative inferences are made from quantitative data; Therefore, in this research, meta-combination as a suitable method to achieve a comprehensive combination of factors affecting the professional growth of teachers is based on the qualitative interpretation of studies.

Step one: Setting research questions

According to the first step of the research, the research question is set first. To set the research question, the first step for researchers is to focus on what is the study, which is obtained by answering the research questions. The questions of the current research are stated in table (1-3). Who defines the studied community. In this research, different databases, journals and search engines have been examined. When (When) the time frame or when will cause the limitation in the duration of the research. The articles studied in this research are from 2000-2023. How describes how the method used to provide the studies. In this research, the method of documentary analysis, that is, the analysis of secondary data, has been used.



Considering the criteria, the researcher identifies and specifies the appropriate articles that enter the inclusion process and the articles that are excluded from the process.

Table (6): research questions - meta-analysis

Research questions	Indicators
1- What is the status of previous theoretical literature findings regarding the professional growth of teachers?	what
2- What are the dimensions and components affecting the professional growth of teachers?	study community (Who)
3- What is the prioritization of teachers' professional growth components?	Time range (When)
4- What is the comprehensive pattern of teachers' professional development?	How

By answering the question related to the index of what, the dimensions and components of teachers' professional growth are determined. After determining the primary goal of the research study, thematic parameters (what), population (who), time (when) and methodology (how) should be specified. These parameters determine the acceptance and non-acceptance criteria of the studies.

1- Determining the subject parameter

It specifies what will be studied. In the current research, all the studies that have presented the model or framework of teachers' professional growth or have studied the components of teachers' professional growth will be reviewed.

2- Determining the demographic parameter

In this section, the studied community is specified. In this research, the studied community is all the researches published in domestic and foreign valid scientific databases; Based on the keywords defined in order to obtain a sample that would cause theoretical saturation, the most relevant studies were selected using a targeted approach.

3- Determine the time parameter

With the help of this parameter, the time period for the study is defined. In the current research, according to the history of the subject of professional growth of teachers, the time period is limited to the years 2000-2023.



4- Determining the methodological parameter

In this section, the methods used in the studies are specified. In terms of methods, all studies with qualitative methods and the results of quantitative researches are desired.

The second step is to review the texts in a systematic way

At this stage, the researcher focuses his systematic search on articles published in different journals and selects relevant keywords. Throughout the research, definitions, search terms, or time frames are continually reevaluated. Finally, the researcher conducts a series of online searches to determine the selected studies. For each specific article, the researcher downloads a copy of the full text of the article along with a list of all references, then checks other selected sources for review. It also identifies new search terms for internet searches.

In this research, secondary data called past documents are used to collect information. These documents include all available researches in the field of teachers' professional development. This way of collecting data is also known as document analysis; that the researcher identifies and specifies suitable articles that enter the metasynthesis process and articles that leave the process by considering the criteria.

In the current research, the tool for collecting information is peer-reviewed scientific journals and journals in the field of educational management, teachers' professional growth, and the most relevant studies were selected using a targeted approach. Various keywords were used to search for research texts. Key words to search are teachers' professional growth, professional development, improvement, excellence. Keywords were checked by searching the title, text, abstract, keywords, and the text of the articles separately from databases such as Emerald, Scopus, Google Scholar, Elsevier, Syed, Maghiran, and Science Database. The criterion for entering the main study is to find rich data of studies in the field of professional development of teachers in Farsi and English. In the first step, the databases were searched using key words and terms, and all the articles were searched based on the relationship of the article title with them. The spreadsheet file was collected. The effort was to include high-quality articles in the research, as a result of searching and checking databases, journals, and search engines, according to experts, based on the desired keywords, articles were found.

The third step is to search and select suitable articles

At the beginning of the search process, the researcher determines whether the found articles are relevant to the research question or not. In order to achieve this goal, the collection of selected studies was reviewed several times. At this stage, the researcher reviewed and identified the relevant articles based on criteria such as geographical area, language of studies, time of studies, study methods, studied society, studied conditions, type of study, etc. Then, to select suitable articles, it considers various parameters such as title, abstract, content, article details (author's name, year of access and research method) and follows a procedure as described below. First, the titles of the articles were reviewed and the articles that did not fit



the research question and purpose were removed. In the next step, the abstracts of the articles that remained from the previous step were reviewed, and in this step, irrelevant articles were removed. During this process, the number of articles was reduced. After that, the articles were read based on the content, in other words, the entire text of the article, and some articles were also rejected at this stage. At the end, the remaining articles were carefully checked again and those without the author's name or details related to the article were discarded. Finally, the number of remaining articles were entered into the next step of meta-combination method, and then the content and quality of the articles were checked.

Assessment of methodological quality of articles

As soon as the articles are reviewed in relation to the studied parameters, the methodological quality of the studies should be evaluated in the next step. The purpose of this step is to remove articles that the researcher does not trust in the presented findings. Therefore, it may reject an article that should be included in the compilation. A tool commonly used to assess the quality of primary qualitative research studies is the Cassap Critical Evaluation Skills Program. Critical appraisal is a key element in a systematic review that thoroughly evaluates research to identify the best articles on a particular topic (Crowe & Shepherd, 2011). This tool reduces uncertainty (Glynn, 2006) and helps the researcher understand the concept of qualitative research. The tool consists of ten questions that try to determine the accuracy, validity and importance of qualitative research studies.

These questions focus on the following: 1. Research objectives 2. Logic of the method 3. Research plan 4. sampling method 5. data collection 6. reflexivity (includes the relationship between the researcher and the participants) 7. ethical considerations 8. accuracy of data analysis 9. clear expression of findings 10. The value of research. (Hosseini 2013) which are presented along with the description in table (3-4). This program is an index that helps the researcher to determine the accuracy, validity and importance of qualitative research studies. In this step, the researcher rejects a number of articles in each review, which are not reviewed in the meta-combination process.

Table (8): Methodological quality evaluation criteria of studies based on face-to-face method (Chenil, 2015)

Author, 1. Research objectives 2. The importance and necessity of research 3. The relationship between research and other researches, 4. Has it clearly stated the references supporting the research?	Clarity of goals and importance of research
Author, 1. Suitability of the research method in general and in relation to the research objectives 2. Has the chosen method matched the research questions and 3. Clearly stated the supporting references?	Suitability and compatibility of the research method



Author 1. Research design. 2. Compatibility of the research design with the goals. Explaining how and why the plan was chosen 4. Matching the implemented design and the selected design. 5. Clearly stated supporting references.	Proportion and conformity of the research plan
Author 1. Sampling strategy. 2. Justification of the suitability of the goals with the study plan. 3. Processes and outputs of the recruitment strategy. 4. Participants in the study. 5. Explaining the time, place and why of choosing the participants and 6. Have supporting references clearly stated?	Appropriateness of the participant selection method
Author 1. How to collect and process information 2. Those who have collected and processed the data 3. How the data collection process relates to the research issues 4. and justifying the data collection settings 5. the reason for the possible change of data collection methods during the research 6. the possible achievement of data saturation and 7. and supporting references clearly stated?	Appropriateness of the data collection method
The author has well explained 1. The relationship between the researcher and the participants, 2. How to solve the problem during the research, 3. How to respond to the events during the research and their impact on the research plan, and 4. The supporting references.	The relationship between the researcher and the observers
Author 1. How to pay attention to ethical issues 2. Providing details about getting to know the participants in the research in order to judge the ethical standards 3. Explaining the possible issues during the research such as confidentiality and the possible impact of the research on the participants 4. It has clearly stated how to prove through ethics committee and supporting references.	Ethical considerations
Author 1. How to analyze the data and the person doing it 2. Description of the analysis process 3. The relationship between the analysis method and the research plan 4. How to deal with conflicting data 5. The quality control system used, choosing the right data to present 6. and clearly stated supporting references	Accuracy of analysis
Author, 1. Objective findings 2. Sufficient support from the findings to the data set 3. Presenting the necessary justification for agreeing or disagreeing with the researcher's findings 4. Discussing the validity of the findings 5. The relationship between the findings and the research questions has been well expressed.	Clear statement of findings



<p>Author 1. The value of the research. 2. The limitations of the research findings. 3. The extent of the contribution of the research to the existing knowledge or the understanding of the phenomenon. 4. The relationship of the findings with the research literature 5. Identifying the necessary areas for further research 5. The discussion about the generalization of the results to other communities and other methods of using the research results. 6. The supporting references have been clearly stated.</p>	<p>The value of research</p>
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At this stage, the researcher gives a small score to each of these questions and then creates a form; Therefore, he can add up the points he gives to each article and evaluate the results. When using this tool, the researcher reads the article in its entirety to regain awareness of the content, then focuses on one CASP criterion such as the research objective at the same time and tries to find direct evidence and reason in a selected form from the article related to the main criterion. For example, the purpose and its sub-criteria, such as, did the author communicate the purpose? determine In order to create an audit trail, the researcher electronically removes the sample citations from the article as proof and reason for the author's performance, and then copies the selections to the appropriate line in the description column and the page numbers from the article, where the proof and reason are located. They were adding. If the researcher finds out that the author's performance is ineffective in any field, he puts a note in the column of CASP and explains the problem in question, and lowers the special criterion based on the size and frequency of the noted defects. He goes through all 10 CASP criteria and then tabulates the overall score. Based on the overall score and the nature of the supporting evidence in the content with any noted defects, the researcher decides to accept or reject the article.

Based on the 51-point scale of the CASP rubric, the researcher proposes the following scoring system and removes any article that is lower than the very good score (31). Table 3-5-5 scores of face-to-face methodological quality assessment criteria (Junbal, 2015).

Table (9): Scores of rubric methodological quality evaluation criteria (Jeneb, 2015)

<i>Score</i>	<i>Quality level</i>	Evaluation criteria
5	<i>Excellent</i>	The author has paid attention to all the mentioned items.
4	<i>very good</i>	The author has paid attention to most of the mentioned cases.
3	<i>good</i>	The author has paid attention to some of the mentioned cases.
2	<i>medium</i>	The author has paid attention to a few of the mentioned cases.
1	<i>weak</i>	The author has not paid attention to any of the mentioned items.



Table (10): Methodological quality levels of articles based on the rubric method (Cheney, 2015)

<i>weak</i>	<i>medium</i>	<i>good</i>	<i>very good</i>	<i>Excellent</i>	The quality level of the article
0-10	11-20	21-40	31-40	41-50	Score range

Table (11): CASP tool for evaluating the quality of primary qualitative research studies

<i>weak</i>	<i>medium</i>	<i>good</i>	<i>very good</i>	<i>Excellent</i>	<i>CASP</i>
					Research purposes
					The logic of the method
					research plan
					sampling
					Collecting data
					reflectivity
					Ethical considerations
					Accuracy of analysis
					Clear statement of findings
					The value of research

After scoring each article based on the 10 mentioned criteria, a score has been considered for each article, and low-quality articles were removed based on the score.

The selected researches were narrowed down to the selected researches through the search in scientific databases through the metacombination process. During the process of searching in the scientific databases and using the metasynthesis method, the following procedures were used to maintain the quality of the metasynthesis method.

- The researcher has tried to take the steps taken throughout the research by providing clear explanations for the options available in the research.
- Both electronic and manual search strategies have been used to find relevant articles.
- The quality control methods used in the original qualitative research studies have been used.



□ Using Kaufman's kappa agreement coefficient method to improve the quality of the study, the method of its use is explained below.

□ In order to control the process of selecting articles through the meta-combination process, the quality control method of Methodological Instrumental Studies (KASP) was used and all the articles were scored based on the ten quality evaluation criteria stated in Table 4-3. The score of each research in each of the criteria was recorded according to the score of the evaluation criteria presented in Table 5-3 and at the end, after calculating the total score of the criteria and based on the quality levels presented in Table 6-3, the quality level of the researches was determined. Researches with good, medium and poor quality levels were excluded.

Conclusion:

In the present study, the validity of the findings obtained from the meta-composite qualitative research was carried out using the procedures provided by Sandolski and Barroso (2007) and it can be said that the findings of the meta-composite method presented have all four types of descriptive, interpretive, theoretical and practical validity. The findings of the research show that for the professional growth of teachers, at least 8 basic dimensions should be paid attention to. These dimensions are: teaching, training, facilities, evaluation, content, technology, expertise, in-service course. In addition, the components and needs related to each of these factors have been examined, which have been extracted in the form of educational needs and non-educational needs.

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