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Explaining the requirements for teacher's development based on professional competencies approach

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As teacher competencies and skills play a major role in their performance and thus the achievement of school and educational goals, teachers need to equip themselves with a variety of competencies to educate children who are potentially future leaders of the community. In this context, the present study aimed to find the correlation between each of the main dimensions of professional competencies and the main components of Teacher Development (TD) in elementary schools. The study designed an applied research and used a survey method. The statistical population includes all primary school teachers in Isfahan province (N = 1150). Using a multi-stage and proportional cluster sampling method, the sample size was 94 teachers. Data were collected by studying literature, interviewing experts and a questionnaire. The data were analyzed using correlation test and Analytical Network Process (ANP) technique using SPSS and Super Decisions software. The results of the research show that the dimension "skill" has the greatest impact on TD, and the dimensions "attitudes and behaviors", "personality traits", "knowledge", and "ability" are respectively in the second to fifth grades, as the most relevant dimensions of professional competence in primary school TD.

Key words: Teacher development (TD), professional competence, primary school, Analytical Network Process (ANP).

INTRODUCTION

Teachers are the main elements of an education structure, which reducing their knowledge and ability has a direct impact on the performance of education system (Adib et al., 2017). Since the educational system of each country is formed by its teachers, and the success and dynamism of this system and the realization of the goals of education require an increase in the level of knowledge and ability of these teachers, the strengthening and development of this sector, especially teachers, is as the heart and soul of education (Khoroshi et al., 2017).

Therefore, an education system is bound to pay particular attention to the maintenance and upgrading of their teachers and not neglect it. According to Ababaf et al. (2014), teacher's improvement is a collection of long-term actions and activities in order to eliminate their work defects and also includes the process that comes out of the form of courses and actions planned and formal and takes an informal, flexible and continuous aspect.

Various factors have an impact on the importance of implementing the teacher development (TD) system,

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factors such as individual interests (increasing teachers' salaries and benefits, robust and sustainable job satisfaction, increasing the sense of job security in terms of empowering, increasing efficiency, performing the task desirable, raising morale, and self-confidence, and professional development), organizational benefits (strengthening sense of belonging and organizational commitment, achieving goals, less attendance, more productivity, and less relocation and transfer), and social benefits (contributing to the durability and strength of the family center, defending organization dignity and credibility, helping to prevent social abnormalities, etc.). Such factors have led TD to be among the basic priorities of education in a fundamental transformation document (Ghanizadeh et al., 2017).

Unfortunately, despite the long history of the implementation of such programs for teachers, there is sufficient evidence that these programs and teacher-improvement activities are not paying attention (Ghanizadeh et al., 2017). Considering that the approach of teachers' professional competence considers the collection of teachers' knowledge, trends and skills, and in fact, the concept of physical, rational, emotional, social and spiritual development of students is in its infancy and it is incongruous, therefore achieving TD in the context of their professional competencies seems to be very desirable.

LITERATURE REVIEW

Teacher development (TD)

Deb (2006), at a glance and naturally, believes that employees development (ED) is a social, cultural and spiritual cohesion, capacity building and empowerment, and they are equipped with skills to have a healthy and satisfying life. According to the definition provided by Ghulamzadeh and Ghalichli (2006), ED is an activity that can develop the level of basic knowledge, efficiency, skill, and satisfaction for individual or organizational benefits, nation, society or humanity in a short and long term. In another definition of ED expressed by Lee and Kim (2001), ED is a natural flow of professional development that over time manages employees to develop new ideas, playing new ways, self-confidence, discovering new ways and promoting knowledge. In his view, there are factors that can have an impact on ED, including individual factor considered as a continuous individual learning, institutional factor reflected from the interactions in workplace between employees and subject of work, and management factor that is responsible for planning and performing ED works. They also introduced the following conditions in their research for ED:

(i) Employed person's knowledge, experience and personality

(ii) Field of word environment
(iii) Professional contacts and exchanges outside work environment

Okereke and Nnenna (2011) have identified the requirements for developing teachers in education. These requirements include directing the recruitment of new teachers, upgrading and maintaining teachers' skills, improving teachers for the future, creating motivation for teachers by creating growth opportunities for them, providing teachers for higher jobs, preventing job cessation or displacement, job satisfaction, and raising and improving productivity and productivity. In the study, the main components and sub-components of TD have been summarized by analyzing the literature and conducting interviews and compiling and completing the questionnaires by some experts at various meetings shown in Figure 1.

Teachers' professional competencies

The term "competence" means, suitable for the purpose, appropriate, complicating, correcting, acceptable result, or the ability to enter a special job, which has a positive relationship with a certificate of knowledge or attestation in that occupation. Teacher, in addition to general competencies, should also have their own job competences in order to enter the profession of full teacher responsibility. Therefore, many studies have been conducted on reasons for job competencies or the establishment of criteria for determining these competencies (George, 2011). In fact, teacher competencies are a set of cognition, orientation and skills that a teacher can achieve in the process of education to promote the physical, intellectual, emotional, social and spiritual development of students. These competencies fall into three areas: cognitive, emotional, and skillful (Maleki, 2005). The aim of cognitive competencies is a set of mental knowledge and skills, which enables the teacher to understand the challenges and issues of education. Emotional competencies are part of the teacher's tendencies and interests in issues and topics related to education and skills competences related to the teacher's skills and abilities in a learning flow (Shahmohammadi, 2014).

In light of studies conducted in the field of teachers' professional competence (Redecker, 2012; Wolf, 2001; Wiliam, 2009; Rychen and Salg anik, 2003; Pepper, 2011; Kerka, 1998; Halász and Michel, 2011) as well as the use of expert opinions in this area, its dimensions and components are classified in Table 1.

Research questions

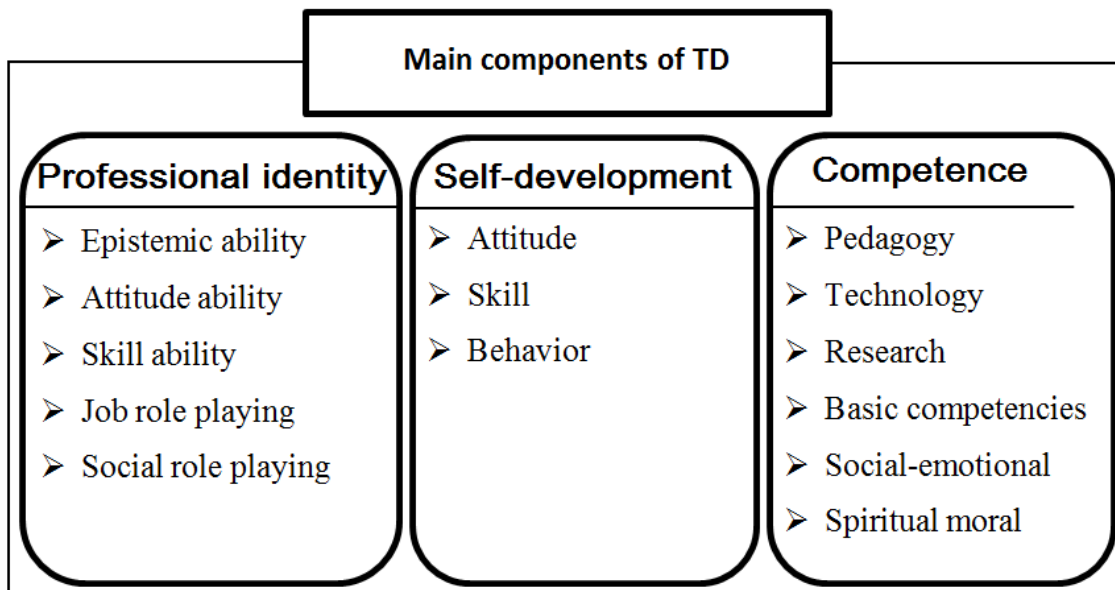In this research, the following questions are presented

Main components of TD

Professional identity
- Epistemic ability
- Attitude ability
- Skill ability
- Job role playing
- Social role playing

Self-development
- Attitude
- Skill
- Behavior

Competence
- Pedagogy
- Technology
- Research
- Basic competencies
- Social-emotional
- Spiritual moral

Figure 1. Main components and sub-components of TD (Ghanizadeh et al., 2017).

Table 1. Dimensions and components of teachers' professional competencies.

Component	subcomponent	Component	subcomponent
Knowledge	Professional knowledge		Efficiency sense
	Knowledge of curriculum and educational content		The desire for teamwork, cooperation
	Teaching strategies and skills, use of language and multimedia	**Attitude**	Critical attitude to his teaching
	Measurement and evaluation		Desire to promote students' democratic attitudes and activities
	Planning, implementation and monitoring of teaching		Commitment to Promoting and Enhancing Learning of All Students
	Use of materials and technologies of teaching		Desire for change, flexibility, continuous learning and professional development
Skill	Managing Students and Groups		Collaboration with partners, parents and community groups
	Supervising, adopting and evaluating of teaching strategies and processes	**Ability**	Negotiating skills with students, parents and community groups
	Collection, analysis, and interpretation of documents and data		Cognitive and metacognitive abilities
Personality characteristics	Subjective Individual Components (comprehension, critical thinking, active learning ability, general mental skills skills, application of intellectual capacity skills, maturity, judgment ability, creativity, rational or cognitive, cognitive and wisdom, intelligence and knowledge, analytical skills, open mind, Cognitive ability, divergent thinking, critical thinking, intellectual skill, inductive logic, ability to think and analyze information, mental capacity, and rational ability)		
	Individual personality factors (honesty, integrity, self-esteem, morale and sacrifice, being active, being agent, self-control, positive thinking)		

Source: Dibaee et al. (2016).

with the aim of identifying the relationship between the two concepts of employee development and teachers' professional competencies:

1. Is there a significant relationship between professional competencies and teachers' development in elementary schools?

2. Which aspect of professional competency has a growing connection with TD in elementary schools?
3. What is the prioritization of quality programs to accelerate the achievement of TD in elementary schools?

RESEARCH METHOD

The present study is an applied research with a survey method. Data and information collection were done by studying literature, interviewing experts and standard and researcher-made questionnaires. The statistical population of this study includes all primary school teachers in Isfahan province (N = 1150). Using a multi-stage and proportional cluster sampling method, according to the limited population, the sample size was calculated to be 94 people. The first questionnaire of this research examines the dimensions of professional competencies (Dibaee et al., 2016) and TD (Ghanizadeh, 2015) in elementary schools based on the Likert range (from very little to very high). In the second questionnaire, TD assessment was conducted in three parts in primary schools in the form of paired comparisons and by Analytical Network Process (ANP). The software used in this study were SPSS and Super Decisions. In this study also the reliability of the questionnaire was obtained by a Cronbach's alpha coefficient of 0.81 for TD and 0.79 for Professional qualifications among elementary teachers.

FINDINGS

Based on the data obtained from the first questionnaire, the scores of sample members were determined in terms of professional competencies and TD in elementary school. In order to investigate the researchers' commitment to using the collected information, the questionnaires were coded for research purposes only and without the teacher's name. Then, with the aim of achieving the weight of each element of improvement of primary school teachers, the network analysis technique was used. Then, with the aim of achieving the weight of each components of TD in elementary schools, the ANP technique was used. For this purpose, first we conducted paired comparison among each of the dimensions of TD and then among each of the dimensions of professional competencies. After analyzing the results obtained from the super matrix of ANP by the software, the weight of each element of TD in primary school was obtained based on the pair comparison. Accordingly, the dimension competence was ranked in first place with a weight of 0.267, the dimension self-development was ranked in second place with a weight of 0.252, and the dimension professional identity was ranked in third place with a weight of 0.211. In the following, after achieving the importance of TD dimensions of the sample, the correlation between the dimensions of TD in elementary schools and their professional competencies was examined (Figure 2).

According to the results obtained in Table 2, there is a significant correlation between the dimensions skills and attitudes with all dimensions of TD in elementary school,

the dimensions knowledge and personality traits with competences and self-development, and the dimension ability with competences and professional identity.

Figure 1 also shows the relationship between professional competencies dimensions with each of TD dimensions in primary school and correlation coefficients for each factor. Now, considering the correlation between professional competencies dimensions with each of TD dimensions in primary school as well as the results obtained from the weight of each of TD dimensions in primary school, the power amount of each professional competencies dimensions to achieve a TD set can be calculated using the following equation:

$$P_{xi} = \sum_{i=1}^{5}(C_{xi} \times W_i)$$

Where, P_{xi} is the power of each professional competence dimension in TD among elementary school teachers, C_{xi} is the correlation coefficient between each professional competence dimensions and TD dimensions, and W_i is the weight of TD dimensions.

Table 3 shows the power amount of each professional competencies dimensions to achieve a TD set. According to the results shown in Table 3, the dimension skill was ranked in first place with a coefficient of 0.465, the dimension attitude was ranked in second place with a weight of 0.423, and the dimensions personality traits, knowledge and ability were ranked respectively in third, forth and fifth places with a weight of 0.367, 0.310 and 0.244.

CONCLUSION

Nowadays, attention to training and developing school teachers is one of the most important ways of improving the quality of public and non-profit schools. Many scholars such as Mirsapasi (2017) and Ghanizadeh et al. (2017) concluded in their studies that the realization of educational goals depends on TD. As TD is influenced by various factors such as professional qualifications, the study of the existing situation of TD in elementary schools in the context of their professional competencies and explaining the power amount of each professional competencies dimensions to achieve a TD set is the main objective of this study.

The results of the first phase of this study showed that the dimensions "skill" and "attitudes" have the most correlation with TD. These two dimensions of professional competencies are related to the overwhelming majority of TD dimensions, and this suggests that these two dimensions are more important in TD among elementary school teachers. This result is consistent with the study by Ghanizadeh et al. (2017). By reviewing the
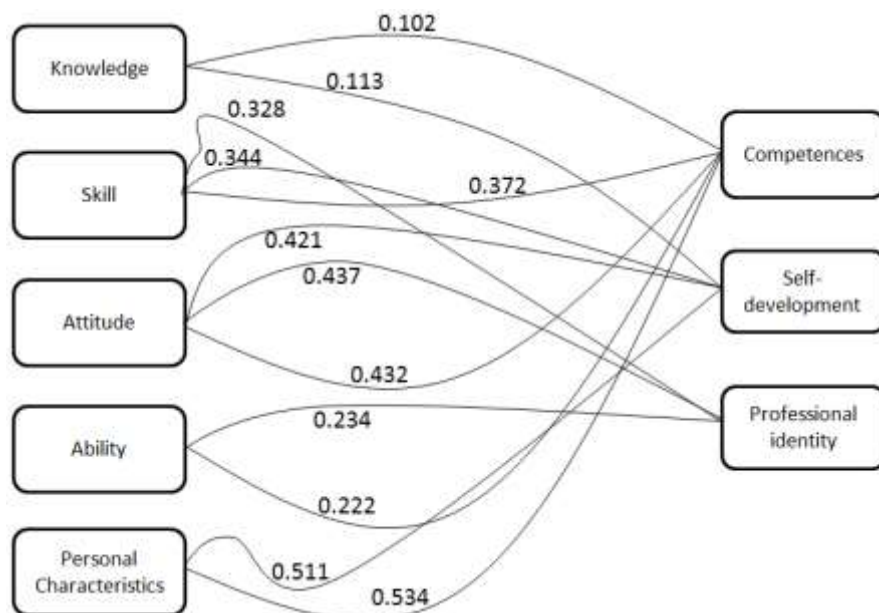
Figure 2. Correlation coefficients between professional competencies dimensions and TD dimensions in elementary schools.

Table 2. Correlation matrix of professional competencies and TD in elementary schools.

			Professional competencies dimensions				
			Personality traits	Attitude	Skill	Ability	knowledge
TD dimensions in elementary schools	Competences	Correlation coefficient	0.534 (*)	0.432 (**)	0.372 (*)	0.222 (*)	0.102 (*)
		Sig.	0.022	0.003	0.023	0.084	0.034
		N	94	94	94	94	94
	Self-development	Correlation coefficient	0.511 (*)	0.421 (**)	0.344 (**)	0.043	0.113 (*)
		Sig.	0.031	0.004	0.002	0.034	0.026
		N	94	94	94	94	94
	Professional identity	Correlation coefficient	0.384	0.437 (*)	0.328 (*)	0.234 (*)	0.348
		Sig.	0.087	0.014	0.025	0.037	0.094
		N	94	94	94	94	94

*Significant correlation at 5% level; ** Significant correlation at 0% level.

Table 3. Power amount of each professional competencies dimensions to achieve a TD set.

W_i	0.267	0.252	0.211	
TD dimensions Professional competencies dimensions	Competences	Self-development	Professional identity	P_{xi}
Personality traits	0.534	0.511	-	0.367
Attitude	0.432	0.421	0.437	0.423
Skill	0.372	0.344	0.328	0.465
Ability	0.222	-	0.234	0.244
Knowledge	0.102	0.113	-	0.310

developments made to school teachers, the results were also confirmed, and it is clear that school TD is also logically more influenced by the dimensions "skill" and "attitudes" in professional competencies.

In the second phase of this study, we first calculated the weight of each TD dimension using ANP technique; then, by summing up correlation multiplication product between each dimension of professional competencies and TD in the weight of the performance, the effectiveness and capacity of each dimension of professional competencies was calculated in TD. The findings at this stage, which confirmed the results obtained from the first step, showed that now and with regard to the situation at the elementary schools in Isfahan, "skills" and "attitudes" with the greatest potential to develop teachers should take into consideration the local dimensions of professional competencies for direction and guidance the path of excellence TD in the context of professional competencies.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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