

Designing a Model for Teacher Competencies in Elementary Education

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Abstract

Purpose: Teacher competencies in the education system is among the most influential and important issues. This importance is rooted in the critical role of teachers in educating people in a society, because the more teachers are prepared and qualified, the greater their impact on upgrading the education system.

Methodology: In this regard, upstream documents, as the most extensive strategic and guidance texts, have given much attention to the teacher competencies, with regard to their mission, including directing and drawing the ideal human and the pursuit of a pure life. This study was conducted aimed at presenting a model for the teacher competencies in elementary education based on upstream documents. For this purpose, three major activities were carried out. Initially, upstream documents were examined to identify the components and instances of the teacher competencies, and the opinions of experts in the field were also used. Then, the model of the teacher competencies was designed according to the extracted instances and components. The qualitative method was used in this study and documentary research method was also used to investigate the first question.

Findings: In this method, all the upstream documents, including the document of fundamental transformation of education, the national document as well as the scientific documents and literature in this field, were carefully studied so that all explicit and implicit instances and components of teacher training are extracted. Moreover, semi-structured interviews were conducted to gain the viewpoints of the experts in order to achieve the representing themes of competencies through content analysis.

Discussion: Finally, the model of professional competencies was designed on the basis of the teacher competencies developed in the previous stages to examine the second question.

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1. Introduction

In recent years, there have been many discussions on reforming, enhancing and expanding the quality of the education system. So, one of the permanent goals of curriculum planners is to improve this system. Obviously, one way to do this is to raise the quality level of the constituent elements of education, including the quality of the teachers, or teachers' competencies. Consequently, in the document of fundamental transformation of education, the establishment of a general specialized and professional competencies measurement system, determining the assessment criteria and the scientific and educational ranking system of teachers, promoting their motivation for career promotion based on the Islamic standards system, and the establishment of a pay system on the basis of expertise, competencies and competitive performance are emphasized. These are also emphasized in the national curriculum as an upstream document that serves as a compass for cultural institutions and the educational community. This means that in a meritocracy system based on applied and competitive assessments, teachers must be tested after receiving the necessary training and placed in an appropriate position according to their specialized and professional abilities and personal and social competencies in order to promote their dignity in the executive and development system of the country. It is therefore evident that teachers play a key role in the development of education. Another important determinant of quality is the interaction between teachers and students. Elements of this interaction are teacher knowledge, skills and sensitivity on the one hand, and learners learning expectations, socioeconomic status, and cultural characteristics on the other, on which education success or failure depend. So hiring the most capable and most qualified people in the teaching profession is a vital issue, and more vital are Teacher training programs and in-service training of the highest quality that provide teachers with the opportunity to enhance their knowledge and skills during their service. This is because the quality of any education system ultimately depends on the quality of its teachers (Raouf, 2000). Assuming the need for a new education and a new role for teachers in the 21st century and according to UNESCO (2014), education is the key to socio-economic development and the heart of a society, making a difference in the future teachers' education system, the role of the teacher, as well as the modernization of the education system are of paramount importance (Imam Jumei and Mollaei Nejad, 2010).

In addition, the important thing for Sootipon is that education has undergone increasing changes in recent years. One of these changes is that students are expected to be able to learn without time and space constraints. Another important issue in education is providing students with a chance to think so that they can analyze and synthesize their knowledge in whatever grade they are while solving problems (Sootipon, 2010). However, the education system faces many challenges in preparing learners for the current realities of the world that are associated with rapid economic, social, technological and environmental changes. It should therefore provide a tool for learners to learn how to use their knowledge and even become a member of the community in which they themselves are productive (knowledge). Part of the knowledge and skills that discussed include critical thinking, creative thinking, problem solving and more. However, the important question here is that following changes in the curriculum and its alignment with competencies, how should teachers teach these competencies to students in order to engage them in their daily and real lives? More precisely, what competencies should teachers, who are expected to be the main drivers of these changes in the education system; themselves have (UNESCO, 2016).

According to the above, the presence of teachers who have the competencies necessary to bring the community to its goal is of the utmost importance. So it is first necessary to clarify the concept of the term competency from the point of view of scholars. Competency is defined as follows: fit for the goal, worthy and deserving, competent or properly qualified, acceptable, capable as well as sufficiently qualified to enter a specific profession in which it is directly related to having a certificate or approval. It can be said that competencies have three pillars: cognition, orientation and skill (Maleki 2005). With the development of Bloom's theory, Dave (2010) defines professional competencies as: the ability to apply or use a set of knowledge, skills, and skillful execution that leads to beneficial performance. Competencies are often

referred to as the foundation of skill standards that determine the level of knowledge, skills, and abilities needed to succeed in the workplace. Therefore, some potential measurement criteria have been identified to evaluate it. Studies in this area have led Harvard dictionary to consider effectiveness as a core element of the definition of competencies and to define them as follows: Competencies in general are those things that individuals must use in their work, role, function, and task or job to be effective. These include work behaviors (what the persons says or does that leads to their poor or strong performance), motivation (what the persons feel about their job, organization, or work location), technical knowledge / skills (what the persons know, conclusions based on facts, technology, etc.), procedures, jobs and organizations, and so on. So, competencies seem to grow and develop over time (Harvard Dictionary, 2016). So far, the meaning of competencies has been examined in general. However, the teacher competencies, specifically in the 21st century, based on UNESCO (2008) and the concept presented by the National Cooperative Secondary Education, are as follows: The combination of skills, abilities and knowledge that are needed to perform a special task (Elizabeth, Jones and Richard Voorhees, 2002). Rama, an expert on the subject, suggested that teacher competencies are characterized by a series of classroom behaviors that arise from the interaction between the educational signs and variables in a social setting (Rama, 1979, quoted in Man Dicor). For Bejkik, teacher competencies are a system of knowledge, skills, abilities, and motivational desire that is involved in the effective realization of professional training activities (Bejkik, 2010).

The three main pillars effective realization or to be effective proposed by him are very similar to those proposed by the earlier experts. In defining competencies, Korthagen (2004) acted like many previous experts and considered the necessary teacher qualifications to include: (a) cognitive competencies, (b) emotional competencies, and (c) skill competencies. Cognitive competencies are referred to a set of knowledge, insight and intellectual skills that enable the teacher to identify and analyze issues related to education, such as awareness of goals. Emotional competencies refer to a set of teacher interests and attitudes towards issues related to education, such as love of the teaching profession. Skill competencies are a set of practical skills and abilities that are related to the process of education, such as teaching skills. Out of the above three competencies, competencies affecting the student are achieved, which is the ultimate goal of teacher activities. However, like Solvay, Wu and Lin (2011) provide a more different definition. According to them, the professional competence of teachers includes the following: Industrial professional competencies, planning development competencies, teaching preparation competencies, practical teaching competencies, teaching evaluation competencies, teaching management competencies, student counseling competencies, public relations and interpersonal relationships promotion competencies, and project collaboration competencies. From another point of view, Solvay (2010) defined teacher competencies as follows: curriculum planning competencies, lifelong learning competencies, socio-cultural competencies, emotional competencies, contextual competencies, research competencies, communication competencies, IT competencies, and environmental competencies. Teachers need these competencies to perform their profession. In the meantime, given the importance of the elementary school to the growth and development of students' talent, it is called the "foundation" in defining the new education system by degree. Another reason for this importance is the role of teachers at this degree in the educational development of students to shape future degrees. Thus, professional competencies of a teacher reflected, especially in elementary school, through a series of classroom behaviors that are rooted in the interaction between educational signs and variables in a social setting. However, by examining the areas of teacher competencies and presenting models in foreign literature, it was found that many models have been developed to train efficient teachers with a focus on professional competencies at various degrees and courses, especially elementary school, due to the high importance of teachers and their role in promoting learning.

As mentioned above, what is at desired in today teachers' education is to increase the quality of their educational programs, which is a general goal of the education system. To this end, professional competencies are considered for them. Experts emphasize that teachers achieve an acceptable level of

standards-compliant performance if each of these competencies is well defined and formulated into clear standards. In the development of these standards, particularly those related to the knowledge and skill competencies, the integration of theory and practice is emphasized. Although most developed and developing countries have taken steps towards teacher training and competencies promoting, the results of research conducted in Iran during 1994-2009 indicate that there are fundamental problems and weaknesses in the curriculum of teacher training centers in the country and this curriculum failed to provide the necessary competencies for teachers. For example, based on the results of a study by Tavana and Motamedi (1994), teachers' learning was evaluated more at the level of knowledge and understanding so that more than 98% of their questions were at the level of knowledge and understanding. The findings of a study by Estiri (1995) indicated that the learning the graduates of these centers was not effective and that it had little productivity in dealing with the educational realities considering its cost. These conditions can be clearly seen in most degrees, especially in elementary school. In the light of the above, the main problem of this study was the lack of a model in which the competencies required for elementary education were presented on the basis of upstream documents and the views of experts. In order to achieve this goal, this study extracted competencies by examining the foundations, including philosophical, psychological, social, and so on, and investigated the relationship between them in a network. Questions: What are the dimensions and components of teacher competencies in elementary education? What is the model of teacher competencies in elementary education?

2. Methodology

The qualitative method was used in this study and documentary research method was also used to investigate the first question. In this method, all the upstream documents, including the document of fundamental transformation of education, the national document as well as the scientific documents and literature in this field, were carefully studied so that all explicit and implicit instances and components of teacher training are extracted. Moreover, semi-structured interviews were conducted to gain the viewpoints of the experts in order to achieve the representing themes of competencies through content analysis. Finally, the model of professional competencies was designed on the basis of the teacher competencies developed in the previous stages to examine the second question. Data were analyzed using theoretical coding. Theoretical coding is the process by which data is broken down, conceptualized and put together in a new form and the main process by which the theory is formulated based on data (Strauss & Corbin, 1995). The types of coding used in this study included open coding based on the categories extracted from the pilot study of theoretical foundations, axial coding, and selective coding.

According to Strauss and Corbin (1995), open coding is defined as: "A part of the analysis that is specifically concerned with naming and categorizing the phenomenon through careful examination of the data". To put it more precisely, in this type of coding, the concepts in the interviews are categorized by relevance to similar topics. This step leads to the distillation and summarization of information obtained from the interviews and documents into concepts and categories that are similar in terms of these questions. There are two trends for data analysis in theoretical coding. Some researchers conduct micro-analysis coding, meaning they analyze texts and data line by line and word by word. Additionally, some only code key points and themes because this method is time consuming (Creswell, 2015).

Axial coding is done to establish links between the categories produced (in the open coding stage). This is usually done on the basis of paradigm model and helps the theorist to make the theorizing process easier. Linking in axial coding is based on the expansion of one of the categories (Strauss & Corbin, 1990).

The main category (such as axial idea or event) is defined as a phenomenon, and other categories are associated with this main category. Causal conditions are the events that trigger the development of the phenomenon. The context refers to a particular set of conditions, and the intervening conditions are the broader set of conditions in which the phenomenon is situated. Action / interaction strategies mean

actions and responses that occur as a consequence of the phenomenon. Finally, the - intentionally or unintentionally - outputs of these actions and responses refer to consequences.

Selective coding refers to the process of selecting the main category, systematically linking it to other categories, validating these links, and completing categories that need further improvement (Strauss & Corbin, 1990). Selective coding based on the results of open coding and axial coding is the basic stage of theorizing, as it links the axial category systematically to other categories, renders those links within the framework of a narrative, and modifies the categories that need further improvement.

The key terms of the interviews were first extracted and subsequently categorized into three general categories of knowledge, skills, and general abilities to identify components relevant to teachers' professional competence. Each of these general areas was divided into smaller areas.

3. Findings

What are the dimensions and components of teacher competencies in elementary education?

Since this study was conducted mainly aimed at identifying and extracting the components of teacher competencies, the main components were extracted based on the following table after examining the upstream documents in this area.

Table 1. Summary of teachers' professional competencies (derived from upstream documents)

Sub-components	Teacher competencies
Commitment to moral values	Attitude
Commitment to religious and revolutionary values	
Discipline	Individual skills
Attention to personality development	
Insight and cognitive development	
Social concerns	Social skills
Social participation	
Professional participation	Professional skills
Professional development	
Skills related to curriculum	
Ability to create appropriate learning opportunities	

Then, the model of teacher competencies derived from upstream documents was drawn as follows:

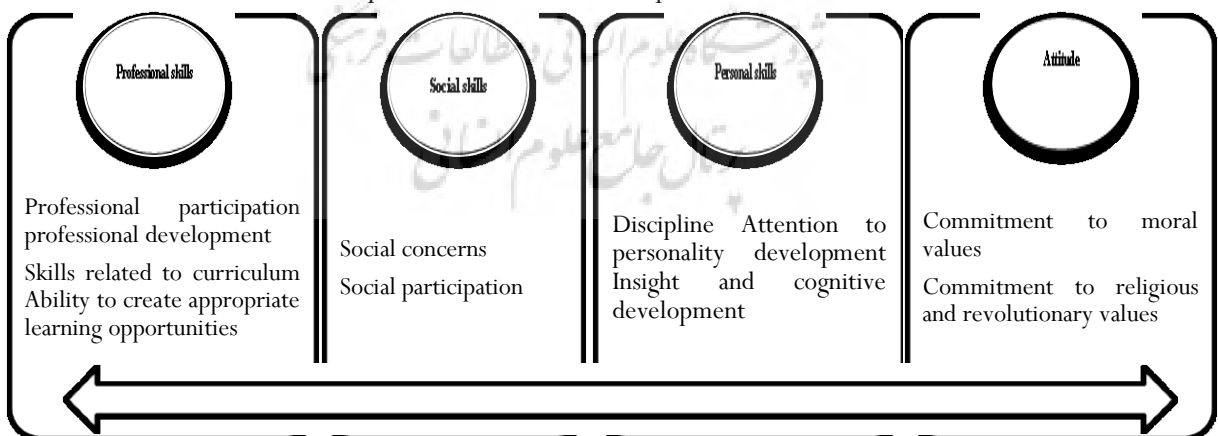


Figure 1. Qualification of the teaching profession

Table2. The following table was extracted after reviewing the literature, research background and the opinions of experts

Components related to competencies	Teacher competencies
Specialized knowledge	Knowledge
Knowledge of curriculum and educational content	
Teaching strategies and skills, the use of language and multimedia	
Measurement and Evaluation	
Knowledge of psychology	
Seeking balance, the curriculum	Specialized skills
Awareness of modern and motivating teaching methods	
Classroom management skills	
Supporting student autonomy	
The use of teaching materials and technologies	
Motivating and guiding students and groups	Personality abilities
The ability to research	
Creativity	
Collaborating with colleagues	
Skills in negotiating with students and parents	
Cognitive and metacognitive abilities	Personality abilities
Teachers emphasis on their personality development	
Flexibility	
Adopting a multicultural perspective	
Commitment to moral values	

Finally, the model of teacher competence derived from the literature and the views of the experts was drawn as follows:

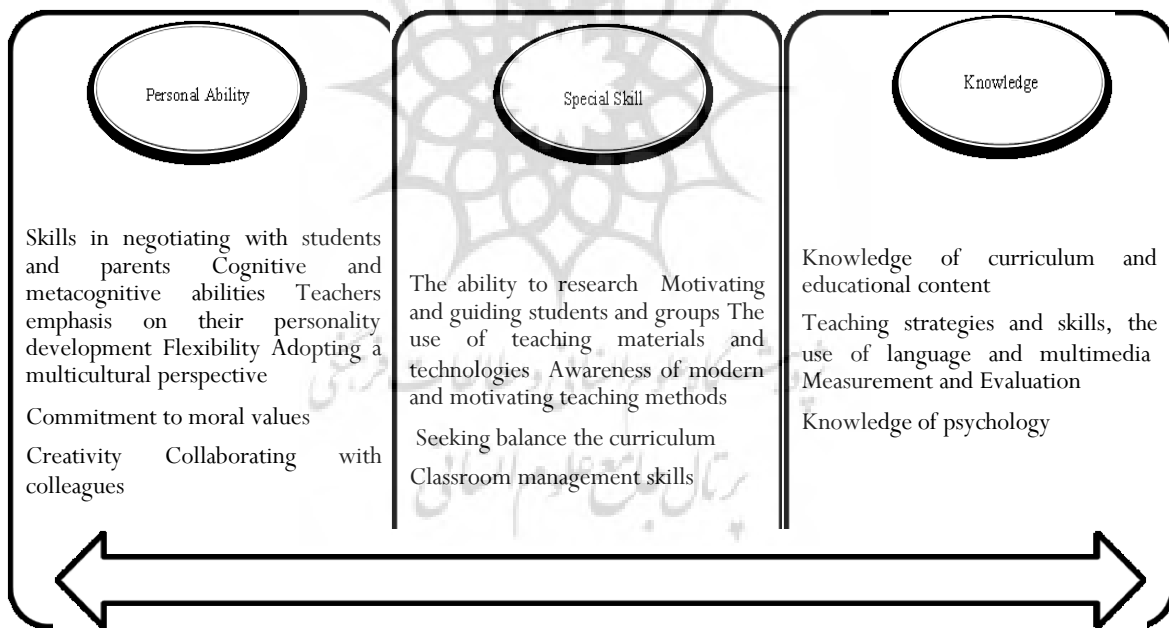


Figure2. Components related to teachers' competencies

What is the model of teacher competencies in primary education?

As mentioned earlier, what was the result of a combination of the opinions of experts and documents can be presented in the following model:

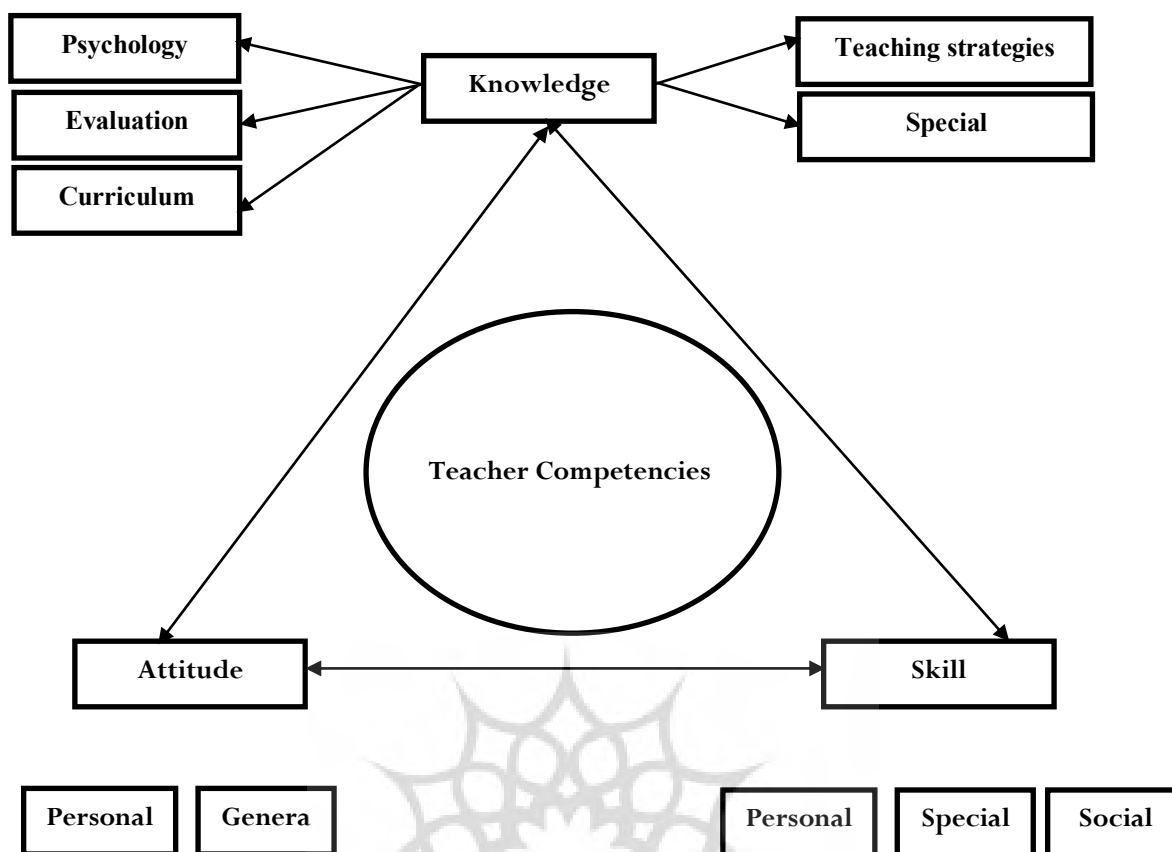


Figure3. Teaching competencies

4. Discussion

Teacher competencies in the education system is among the most influential and important issues. This importance is rooted in the critical role of teachers in educating people in a society, because the more teachers are prepared and qualified, the greater their impact on upgrading the education system. In this regard, upstream documents, as the most extensive strategic and guidance texts, have given much attention to the teacher competencies, with regard to their mission, including directing and drawing the ideal human. This study was conducted aimed at presenting a model for the teacher competencies in elementary education based on upstream documents. The results indicated that the studied competencies were divided into three main and sub-areas. The findings were in three areas: Cognitive competencies (with two parts of specialized knowledge and knowledge of curriculum and educational content, teaching strategies and skills, psychology, assessment and evaluation), skill competencies (with three parts of individual skills, social skills, and professional / specialized skills), and attitudinal competencies (with two parts of individual and general). The competencies gained were those that improved teachers' performance in the workplace, improved their role in teaching effectiveness, and increased the efficiency of teachers and students from the perspective of professionals, graduated, and employers.

In this regard, according to the results of a comprehensive study by Asia-Pacific Economic Cooperation (2000) on teacher training programs in twelve countries, professional training of teachers was required to be based on a specific model. Moreover, it was necessary to increase the number of years of teacher training courses, the length of the internship as well as the relationships between teacher training centers and schools. In a study by the National Assessment and Accreditation Council (NAAC) in collaboration with eleven Commonwealth of Learning (COL) and with the participation of experts from Australia, Bangladesh,

Botswana, India, Kenya, Mauritania, Namibia, Nigeria, Sri Lanka, Singapore and the United Kingdom, a document on effective teacher to enhance the quality of teacher training was provided. In this study, six key areas were identified such as curriculum design, organizational management, pre-service teacher training, and so on. Two dimensions were then extracted from these domains, and finally four indicators were extracted from these dimensions (NAAC and COL, 2007, quoted by Bibak, 2017).

In their study, Yakulik and Noonan (2010) stated that there was a need to design a model for teacher training in which a combination of input indicators such as curriculum and educational planning and output indicators such as specific skills were considered to improve the quality of education.

In this regard, the findings of this study were in line with those of all three studies. Since all three areas of knowledge (professional and educational), skills (personal and professional) and attitudes (religious and moral) are emphasized in the upstream documents, the Ministry of Education placed teacher education and promotion on its agenda at the above levels in individual, human, religious and Iranian dimensions in 2011. This is because teachers, as a central factor, must have the competencies necessary for human development towards a pure life, which is the central focus of the document of fundamental transformation of education and the national curriculum. So, the competencies of teachers must fit into a framework and model so that they are included in the content of the teacher training program. As a result, the findings of this study and the design of the teacher competencies model will be applicable in elementary education. Since the findings of this study on identifying teacher competencies in elementary education were based on upstream documents and derived from the view of experts, and since they were comprehensive, under this model, higher education, including teacher training universities, can not only recruit the right people according to their needs and expectations, but also they can require teachers to implement programs and self-assessments to achieve the goals of these centers. In addition, since these competencies are in line with the teaching of student teachers and expanding their competencies, these universities are recommended to consider the proposed model in order to further develop competencies in graduates. Also, teachers and student teachers are recommended to use this model in their teaching and learning activities by studying the above-mentioned model of competencies to enhance their effectiveness.

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